GRAMMAR 1

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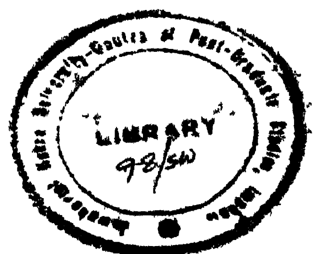
Developmental Edition

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ACKNOWLEDGMENT

The form and content of the rules of English grammar presented in these lessons are adapted from the conceptions of both traditional and contemporary grammarians. Of the traditional grammarians, Otto Jespersen has had great influence on the authors through his treatise, A Modern English Grammar on Historical Principles. The ideas of many contemporary grammarians have been incorporated into these lessons, but of special importance to the development of our presentation have been the following contributions : Noam Chomsky, The MIT Press, Aspects of the Theory of Syntax, Cambridge, 1965; Jerrold J.Katz and Paul M.Postal, An Integrated Theory of Linguistic Descriptions, The MIT Press, Cambridge, 1964; George Lakoff, Deep and Surface Grammar, The MIT Press, Cambridge (to appear in 1967); Peter S. Rosenbaum, The Grammar of English Predicate Complement Constructions, Ph.D Dissertation, Massachusetts Institute of Technology, 1965; Peter S.Ros[illegible]um, "The IBM English Grammar II," Specification and Utilization [illegible] Transformational Grammar, in preparation for Air Force Ca[illegible] Research Laboratories, Office of Aerospace Research, [illegible]ghts, 1966; Paul M.Postal and Peter S.Rosenbaum, English [illegible]ination : Recent Advances in Transformational Analysis, [illegible]-Wesley Publishing Company, Reading, Massachusetts ([illegible]).

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CONTENTS

Lesson 1

WHAT YOU KNOW ABOUT SENTENCES

Do you realize what you are doing at this very moment ? You are reading and understanding a sentence in English which you have never seen before and will probably never see again. In fact, every sentence in this book is a sentence which is new to you; yet you will know that they are all sentences in English. A very important question for you to think about is this : If you have never seen any of the sentences in this book before, how can you understand them ? One simple answer could be that you can understand them because you know English. But this answer is not good enough. It doesn't tell you "how" you understand English sentences, or "how" you create them. This book is all about the "how" of the English language.

When we study the English language, what we mean is that we are studying the very large group of sentences which make up the English language. Every language, whether it be English, French, Russian, Italian, Chinese, or any other language spoken anywhere in the world, is nothing more than a collection of sentences. Basically, a sentence is a "string" of words. When you know English, what this means is that you can tell whether a particular string of words is or is not a sentence in English. A native speaker of English, for instance you, knows that the following strings of words are English sentences.

1. my friend Bill always teases his sister
2. would you care to have some cotton candy
3. leave me alone

Can you tell which of the following strings are English sentences ?

1. that old man snores continually
2. man old continually that snores

Of course you can. When we know a language we can tell whether or not a string of words is a sentence in that language.

If you had been brought up in France, you would know that the first string below is a sentence in French and that the second is not.

1. ce garcon aime cette jeune fille
2. cette aime la jeune garcon ce

If you had been born in Russia and spoke Russian, you would know that the first string below is a sentence in Russian and the second string is not.

1. etot mal'chik lyubit etu zhenshchinu
2. mal'chik zhenshchinu lyubit etu etot

To know any language requires several skills and abilities. The first such skill is the one you have just been reading about. It is the ability to tell whether or not a string of words is a grammatical sentence in English. Look at the following strings of words. Some of these strings are English sentences (which you have never seen before) and some are just plain nonsense.

1. the billy goat started at the cockeyed woodchuck
2. woodchucks never lay golden the boys came early
3. golden eggs were laid by the flatfooted turkey
4. golden eggs flatfooted turkey the by laid were

Because you speak English, you know that strings 1 and 3 are English sentences. (What must you do to them to be sure everyone reading them would accept them as "good" English sentences?) On the other hand, strings 2 and 4 are not English sentences. Not only do you know this, but so does every other native speaker of English, even though he has never seen these strings before. The most important of all skills for the speak of English is the skill by which he knows whether a string of words is a sentence in English or merely "word salad."

There is something else which every native speaker of English knows. He knows who is doing what in any particular sentence. Look at these sentences :

1. Cinderella promised her sisters to clean up her room.
2. Cinderella asked her sisters to clean up her room.

In sentence 1, who is to do the cleaning up of the room ? Obviously the person to do the cleaning up is Cinderella. Look at the sentence again and make sure. Now look at the second sentence.

In the second sentence, Cinderella's sisters are to do the cleaning up (if they feel like it). The only difference in the words of the two sentences is the difference between promised and asked. Yet, because you are a native speaker of English, you understand that the person to do the cleaning is different in each sentence.

You know still more about English sentences. You, and every other native speaker of English, have the ability to tell when two different sentences mean the same thing. For example, think about these two sentences :

1. The old hen loves the haughty gander.
2. The haughty gander is loved by the old hen.

The native English speaker knows that these sentences mean the same thing. When two sentences mean the same thing, we say that they are <u>synonymous</u> sentences. Sentences 1 and 2 are synonymous. You were never taught that these two sentences are synonymous. You could not have been taught that they are synonymous because you have never seen them before. You know they are synonymous because you know English ! And one of the skills involved in knowing English is the skill which enables you to understand that these two sentences are synonymous.

Now look at the following two sentences. They contain exactly the same words, but they certainly do not mean the same thing.

1. The old hen loves the haughty gander.
2. The haughty gander loves the old hen.

The old hen may love the haughty gander, but this does not mean that the haughty gander loves the old hen. In fact, the haughty gander may not even know that the old hen exists. Because you know English, you know that these two sentences do not mean the same thing.

So, each speaker of English can almost always tell which strings of words are sentences of English and which are not. He can tell who is doing what in an English sentence, and he can usually tell when two sentences are synonymous. If you look at the following sentence, you will see that English-speaking people have still another important skill.



The lamb is too hot to eat.

When you first read the sentence, you might picture a dish of very hot roast lamb. On the other hand, you might picture a woolly white animal panting in the one-hundred degree temperature, unable to eat his dinner. In the first picture, some person is thinking about eating the lamb-someone not mentioned in the sentence is the doer of the action -- while in the second picture, the lamb will do the eating (if he ever cools off). A person from another country, without a good knowledge of our language, might not see that this sentence has two meanings. When a sentence has more than one meaning we say that it is ambiguous. Your ability to see ambiguousness or ambiguity is an important ability indeed. You will be reading more about that particular skill later.

In this book, you will be examining what you as a native speaker of English are actually doing when you speak or write a sentence. First, you will be examining -- and studying -- English grammar. Second, you will be examining and studying yourself.

In a certain sense, everyone who speaks English knows English grammar. But very few people who know and speak English know anything about the several skills they are using when they speak, hear, read, or write sentences. What we shall do in this book is try not only to understand these skills, but also to see how they are used in understanding the meaning of sentences and in producing new

sentences. When you know exactly what these skills are and how they work, you can truly say that you have an understanding of English grammar. You will understand more than just how to use English. You will know more exactly what you are doing when you use English.

As you use this book, keep in mind a second goal. It is the goal of understanding what human beings do when they speak a language, no matter what that language may be. Languages differ in many respects. But, the native speaker of any language uses the same skills in his language that you use in English. The speaker of French knows when a string of French words is a sentence. He knows whether or not two sentences in French mean the same thing. In short, he knows the same things about his language that we know about ours. Therefore, when you find out something about the skills that you possess for your language, you are also finding out something about the speaker of French (and Spanish, German, etc.) as well.

EXERCISES

1. What four skills described in this lesson do you, as a native speaker of English, already possess ?

2. Give your own examples for each skill. You may use this as an example of ambiguity : The workmen tore up the street. Can you see the two meanings of this sentence ?

3. Which skills do you think a child learns first ?

4. Why, according to this lesson, is the study of the grammar of our language important ? What other reasons can you think of ?

Lesson 2

SENTENCE STRUCTURE

When we write sentences, we write strings of words. When we read sentences, we read strings of words. But if we study sentences more closely, we see that they actually have an "invisible" structure, a structure that we, as speakers of English, know is there. The words in sentences fall into groups or clusters and English speakers have little trouble recognising these clusters. For example, look at the following sentence.

The thin knight trusted a fat drunkard.

Notice that the words in this sentence fall naturally into two sections. If someone asked you to break this sentence into two separate sections that seem natural to you, what do you think the sections would be ? How about one of these two answers ?

1. the thin — knight trusted a fat drunkard
2. the thin knight trusted a fat — drunkard

Most probably, you would not divide the sentence in either of these two ways. You would probably divide the sentence into the following two parts.

the thin knight — trusted a fat drunkard

When we talk about the way in which words are grouped in sentences, we can show the groups in a diagram rather like a family tree. Look at the tree for the sentence "the thin knight trusted a fat drunkard."

SENTENCE

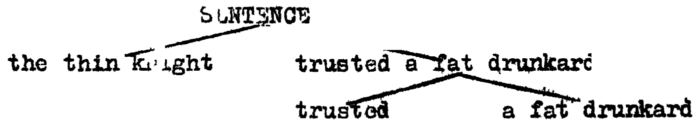
the thin knight — trusted a fat drunkard

This tree simply shows how the words in the sentence are grouped.

Now look at the right hand branch of the tree, "trusted a fat drunkard." Would you break the words up this way ?

trusted — a fat drunkard

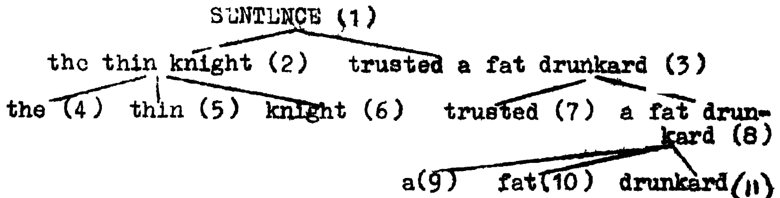
We can include this division of "trusted a fat drunkard" in our tree:



What are the remaining groups of words ? They are "the thin knight" and "a fat drunkard." Both of these groups can be broken down into three parts and added to the tree. Here are the parts. You draw the tree.

the	thin	knight
a	fat	drunkard

Each part of the sentence you have diagrammed in your tree is called a SENTENCE CONSTITUENT. How many constituents are there in the sentence "the thin knight trusted a fat drunkard"? If you count them, you will see that there are eleven sentence constituents. Below is the tree with each constituent numbered.



Let us list these constituents from the top of the tree diagram to the bottom. Notice that the first constituent is the whole sentence.

CONSTITUENT LIST

1. the thin knight trusted a fat drunkard
2. the thin knight
3. trusted a fat drunkard

4. the
5. thin
6. knight
7. trusted
8. a fat drunkard
9. a
10. fat
11. drunkard

If you examine this list carefully, you will see that some constituents seem to be of the same type. For example, the constituent "a fat drunkard" seems to be like the constituent "the thin knight." When we want to find out for certain whether two constituents are of the same general type, we can often employ the SUBSTITUTION TEST. If you can put one constituent in the place of another constituent in a tree, this means that they may very well be the same kind of constituent. Let's think about the substitution test for our example sentence "the thin knight trusted a fat drunkard." Look again at the tree for this sentence.

Now, suppose we want to find out if the constituent "the" is the same kind of constituent as the constituent "a". We can find out by substituting the constituent "the" for the constituent "a" wherever "a" appears in the tree diagram. In other words, sentence (1) becomes sentence (2).

(1) The thin knight trusted a fat drunkard.
(2) The thin knight trusted the fat drunkard.

Since "the" can be substituted for "a" without producing an ungrammatical sentence, "the" and "a" are probably the same kind of constituent.

Let's see if "a" is the same kind of constituent as "the thin knight." Let's try the substitution test again.

(1) The thin knight trusted a fat drunkard.
(2) *A trusted a fat drunkard.

Obviously, the second string, "a trusted a fat drunkard," is not a sentence in English. (In the future, we will use an asterisk (*) to mark strings which are not English sentences.) Since "a" cannot be substituted for "the thin knight," these two constituents are almost certainly not of the same type.

Now try the substitution test on the constituents "knight" and "drunkard." Substitute "drunkard" for "knight."

(1) The thin knight trusted a fat drunkard.

becomes

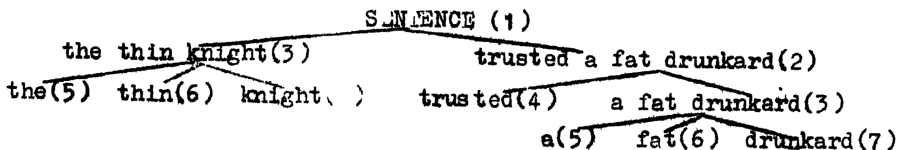
(2) The thin drunkard trusted a fat drunkard.

Since this is a perfectly grammatical English sentence, and not a nonsense string of words, we are pretty sure that "drunkard" and "knight" are the same type of constituent.

If you try the substitution test on each of the constituents of the sentence "the thin knight trusted a fat drunkard," you will soon discover that this sentence contains only seven different types of constituents.

1. the thin knight trusted a fat drunkard
2. trusted a fat drunkard
3. the thin knight, a fat drunkard
4. trusted
5. the, a
6. thin, fat
7. knight, drunkard

Here is the tree diagram for the sentence "the thin knight trusted a fat drunkard" in which constituents of the same type are given the same number :



EXERCISES

1. Review the sev[illegible] of constituents discussed in this lesson. Pu[illegible] c[illegible] tuents in the following strings so that they become gr[illegible] English sentences. The first string is done for you.

   a. the tall girl ________
      Answer :. The tall girl tickled the rhinoceros.

   b. the slender lady ________ the crying child

   c. __________ met __ ________

   d. a ________ boy won the ________ medal

   e. __________ beat the visiting team

   f. the ugly __________ ate the boiled ___

2. Draw tree diagrams for the following sentences.

   a. The old general feared the cunning conspirator.
   b. An elderly poet surprised the attentive crowd.
   c. A kind mouse freed the trapped lion.

Lesson 3

TRANSFORMATIONS

In Lesson 2, you learned that the words in sentences are arranged in groups called constituents. The arrangement of the constituents making up a sentence is called the PHRASE structure of a sentence. A tree diagram is a picture of a phrase structure of a particular sentence. The most important fact you will learn about English sentences is that every sentence has two phrase structures. One phrase structure is called the DEEP STRUCTURE; the other is called the SURFACE STRUCTURE. As you might guess, surface structures come from deep structures.

In this lesson you will discover how the surface structures come from deep structures. They do so by means of a process called TRANSFORMATION; and it is about the transformation process that you will be learning. If you don't understand immediately, don't give up. You know a lot more than you think you know about English and even about transformations.

Here's an ordinary sentence :

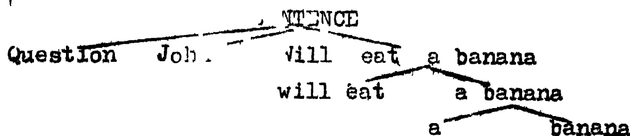
John will eat a banana.

Now, let's make a question out of it:

Will John eat a banana ?

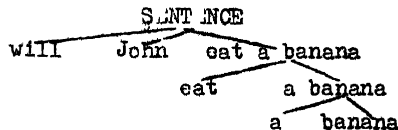
You can see that the question sentence "Will John eat a banana ?" is a rearrangement of the sentence "John will eat a banana." The words are the same, but the positions have changed. If you draw the tree diagrams for these two sentences, you will see that they are not the same. This kind of rearrangement shows a process of transformation.

The deep structure of the question sentence "Will John eat a banana" has the following phrase structure tree :



"Question" in this phrase structure tree means that this is a deep phrase structure to which the question transformation must be applied.

The question transformation is the process which moves the word "will" to the front of the sentence "John will eat a banana" and which removes (or deletes) "QUESTION". Transformations always change deep phrase structures into surface phrase structures. The surface structure for the question "will John eat a banana" is diagramed like this :



Once again, compare the deep structure tree (on page 9) with the surface structure tree. The question sentence "will John eat a banana" has a deep structure and a surface structure. These two structures are linked by the question transformation. So, the question transformation changes the deep structure, which we might abbreviate as

(Question) John will eat a banana

into the surface structure,

Will John eat a banana?

The question transformation is only one of a number of important transformations in English grammar. Look at another deep structure :

(Negative) John should eat a banana

The negative transformation introduces the negative word "not" into this string, producing the surface structure "John should not eat a banana."

A third transformation, called the contraction transformation, changes "John should not eat a banana" into "John shouldn't eat a banana. The contraction transformation is one which changes only the phrase structures of negative sentences like "John should not eat a banana." What this transformation does is to change the word "not" into "n't," as in the sentence "John shouldn't eat a banana." Think about the contraction transformation very carefully because it reveals to us a very important fact about transformations. The fact is this : <u>Transformations must be applied in a particular order</u>.

For example, the negative transformation must be applied before the contraction transformation can be carried out. You can understand that better if you examine the way the sentence "John shouldn't eat a banana" is produced from its deep structure. How do you abbreviate the deep structure for this sentence ? You can do it like this :

(Negative) John should eat a banana

Remember that we are working with two transformations, the negative transformation, which introduces the word "not" into a sentence, and
con-
ti-
transformation, which changes this "not" into "n't." Now, suppose we try to apply the contraction transformation to the underlying structure given below.

(Negativ) John [illegible] oul eat a banana

Will anything hap[illegible] answer is no. Nothing will happen because this deep structure d[illegible] not yet contain the negative word "not". We cannot change [illegible]ot" [illegible] 'n't" if "not" isn't already there. Well, what does this [illegible] ? [illegible] means that the negative transformation must be applied to the [illegible] tructure first. If we apply the negative transformation, th[illegible] following sentence structure is produced or, to use the gramma[illegible] terms "generated."

John shoul[illegible] eat a ban[illegible]na.

Now, since we [illegible] a sentence structure which does contain "not," as the result of [illegible] applied [illegible] negative transformation, we can apply the contraction transformation to generate the sentence :

John shouldn't eat a ban[illegible].

You can se[illegible] t transformations must be applied in a particular order. [illegible]nsformations must take place before others. In particular, th[illegible] iv[illegible] transformations must be applied before we can apply the cont[illegible] tion transformation.

One of the mo[illegible] portant transformations in English is the <u>passive transformatio</u>[illegible]. The passive transformation changes (or transforms) a deep structu[illegible], such as the deep structure for the sentence,

Joanna hit the ball.

into the surface structure

The ball was hit by Joanna.

Study how the passive transformation works in the three examples listed below :

a. the girl forgot the homework Passive the homework was forgotten by the girl

b. the boy ate a spaghetti sandwich Passive a spaghetti sandwich was eaten by the boy

c. the gift he received pleased John Passive John was pleased by the gift he received

When we show how transformations work, we usually write a sentence on the left followed by the transformation arrow, , followed by a sentence on the right. It is very important to remember that these sentences, both on the left side and on the right side of the arrow, are abbreviations for phrase structures. If it were not such a time-consuming process, we would write out a full phrase structure tree on the left side of the arrow and a full phrase structure tree on the right side of the arrow. When a transformation causes a change in a phrase structure, we say it transforms the phrase structure. The very important point to remember is this : Transformations transform phrase structure.

EXERCISES

1. Assume that the following strings represent deep phrase structures. For each, apply the transformations printed in SMALL CAPITALS which follow each string. The result in each case should be a different grammatical English Ssentence The first one has been done for you.

a. Olivia admired the Duke's messenger - PASSIVE
Answer : The Duke's messenger was admired by Olivia.

b. (Question) Sir Toby Belch tricked Malvolio - PASSIVE, QUESTION

c. (Negative) (Question) Sir Toby Belch has cheated Sir Andrew - NEGATIVE, PASSIVE, QUESTION

d. (Negative) (Question) Maria wrote a letter - NEGATIVE, CONTRACTION, PASSIVE, QUESTION

2. Draw the deep structure trees of the following sentences and tell which transformations were used to generate each surface structure.

a. Was Cassius deceiving Brutus ?

b. Julius Caesar was written by Shakespeare.

c. Should not Octavius avenge Caesar ?

d. Wasn't Caesar assassinated by Brutus ?

Lesson 4

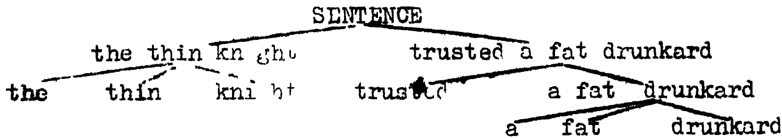
WHAT DO TRANSFORMATIONS DO?

You have learned that transformations transform deep structures into surface structures. But we still haven't said anything about exactly how transformations work. In transforming a deep structure into a surface structure, what precisely does the transformation do? In this lesson, you should find an answer to this question.

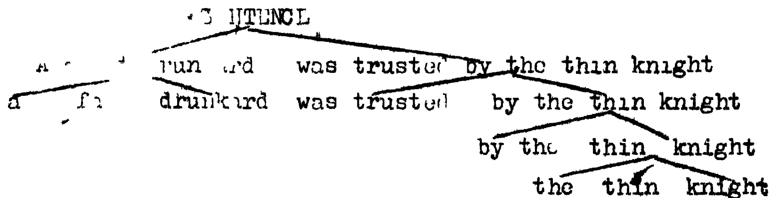
Look again at the example sentence we used earlier.

the thin knight trusted a fat drunkard

Here is the deep structure tree :



If the passive transformation is applied to this deep structure, it would genera[illegible] tree, "a fat drunkard was trusted by the thin knight," [illegible] surface structure given below.



Study carefully the deep structure tree and the surface structure tree on page 1[illegible]. Exactly what did the passive transformation [illegible]?

If you examine the two diagrams very carefully, you will see that the passive transformation has done three things to the deep phrase structure. First, it has caused the constituents "the thin knight" and "a fat drunkard" to change places. Second, it has introduced the word "was" into the phrase structure. Third, it has introduced the word "by". Look at the two trees again and compare them. You can confirm these changes yourself.

For the moment, we shall concentrate on the first of these changes, the one by which th two constituents "the thin knight" and "a fat drunkard" are interchanged. Suppose you are asked the question: What does the passive transformation do? You might offer this answer: The passive transformation interchanges the constituents "the thin knight" and "a fat drunkard." This answer is certainly correct if you are describing what the passive transformation does to the sentence "the thin knight trust the fat drunkard." But suppose that you want to describe what happens in all sentences which may be transformed by the passive transformation ?

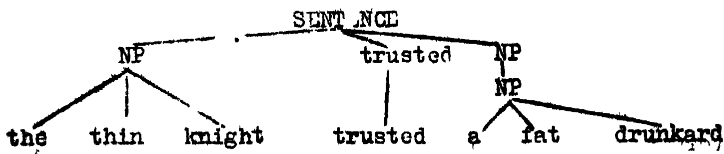
Look at the sentences below. Each one at the left has been transformed by the passive transformation to the sentence following the arrow.

1. the cow kicked the gate ⟶ the gate was kicked by the cow
2. almost everyone respects Brutus ⟶ Brutus is respected by almost everyone
3. the fact that Caesar is late annoys Brutus ⟶ Brutus is annoyed by the fact that Caesar is late

In the first sentence, the constituents "the cow" and "the gate" are interchanged. In the second sentence, the constituents "almost everyone" and "Brutus" are interchanged. In the third sentence, the constituents "the fact that Caesar is late" and "Brutus" are interchanged. We could not hope to list all of the words and groups of words which could be interchanged by the passive [illegible] we describe what the passive tr[illegible]ion. How can we describe what the passive transformation does without mentioning particular groups of words which must b interchanged like "the knight" and "the fat drunkard" ?

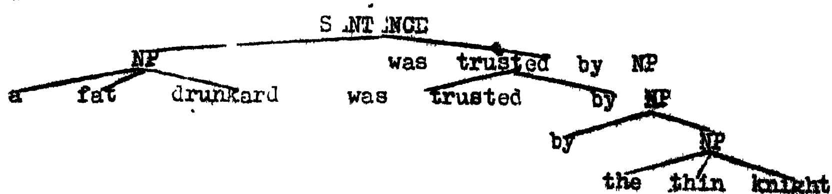
In Lesson 2 you saw that constituents like "the thin knight" and "a fat drunkard" are similar constituents. By similar we meant that one constituent could be substituted for the other. These two constituents are also similar in another way : They can be interchanged by the passive transformation. It is the similarity between these two constituents which gives us a way to describe what the passive transformation does.

There is a name for all constituents (like "the thin knight" and "a fat drunkard") which are moved by the passive transformation. You must learn the name. Every constituent moved by the passive transformation is a NOUN PHRASE, which we abbreviate as NP. In the sentence "the thin knight trusted a fat drunkard," the constituent "the thin knight" is a NP and the constituent "a fat drunkard" is a NP. Now, let us draw the deep and surface structure trees again, and substitute NP for every phrase like "a fat drunkard" and "the thin knight".



All right. Try the question again : What does the passive transformation do to the deep structure ? What it does is interchange two noun phrases. No matter what the words may be, if they make up a constituent which is a NP, then the NP constituent can be moved by the passive transformation.

So, when you talk about the passive transformation and describe its effect on a phrase structure, you no longer need to talk about particular constituents such as "the thin knight." You can now talk about noun phrases and say that the passive transformation interchanges noun phrases. If we apply the passive transformation to the sentence "the thin knight trusted a fat drunkard," we generate the following surface structure tree :



You can use the passive transformation to find out if a constituent is a noun phrase. If a constituent is moved by the passive transformation, you know that the constituent is a NP. For example, the constituent "King Duncan of Scotland" is a NP in the sentence "Macbeth envied King Duncan of Scotland". You know this because the constituent "King Duncan of Scotland" is moved by the passive transformation to the beginning of the sentence. The passive sentence, generated is "King Duncan of Scotland was envied by Macbeth."

You can also use the passive transformation to make sure that a particular group of words is not a noun phrase. For example, think about the three word "King Duncan home" in the sentence "Macbeth brought King Duncan home." If "King Duncan home" is a NP, then we would expect the passive transformation to generate the passive sentence. "King Duncan home was brought by Macbeth." But this sentence is ungrammatical and therefore "King Duncan home" is not a NP. On the other hand, "King Duncan" is a NP. You know this because the passive transformation does move this constituent to the front of the sentence when the grammatical passive sentence "King Duncan was brought home by Macbeth" is generated.

You have seen that the passive transformation interchanges noun phrases. Remember ! You cannot use the passive transformation as a test for noun phrases when the noun phrases occur in deep structures which cannot take the passive transformation. However, there are other transformations to help do this job for us, and we will study some of these in the next lesson.

E X E R C I S E S

1. Here is a group of sentences all of which have been generated by the passive transformation. Show what each of the sentences would have been had the passive transformation not been applied. The first one is done for you.

   a. The human voice is reproduced by that computer.
      Answer : that computer reproduces the human voice

   b. Three thousand kilowatts of electricity are generated by that unimpressive machine.

   c. Three million sentences are generated by that ancient computer.

d. The Enrico Caruso Gold Medal for the Best Tenor of 1971 was won by a cocker spaniel with a rich, fruity voice.
e. Four and twenty black birds were baked by the noseless maid
f. The novelist was attacked by five critics.

2. Apply the passive transformation to the deep structure of the following sentences. If you find a sentence to which the passive transformation cannot be applied, write <u>Not Applicable</u>.

a. the lamb followed Mary
b. the boy will hit the ball
c. the crocodile has eaten the asparagus
d. Picasso paints skillfully

3. Draw tree diagrams for the following sentences.

a. The angry harpist attacked the chattering chimpanzee.
b. The whispering preacher stole a blue panther.
c. The hungry soprano sang.
d. John disliked donkeys.

4. To the following deep structures, apply the NEGATIVE, CONTRAC-TION, and QUESTION transformations. Show each stage of your wo The first one is done for you.

a. (Negative) (Question) the milkmaid has cleaned the barn

<u>Negative</u> (Question) the mailmaid has not cleaned the barn
<u>Contraction</u> (Question) the milkmaid hasn't cleaned the barn
<u>Question</u> Hasn't the milkmaid cleaned the barn ?

b. (Negative) (Question) Shaw wrote a play about Saint Joan
c. (Negative) (Question) Orsino married Olivia
d. (Negative) (Question) Cassius was a lean, hot-tempered man
e. (Negative) (Question) John attacked the authority of the nobility

5. Besides the "substitution" test, what is another test for noun phrases. Why do we need other tests as well ?

6. Explain what a constituent is.

7. List the noun phrases in the following sentences. If you're not sure about some, use the passive test.

   a. The crafty chipmunk turned three somersaults.
   b. Dr. Johnson was questioned by an old lady in a green dress.
   c. The camel's feet were inflamed by the gritty desert sand.
   d. The chef devoured a gorgeous meal of boiled gravel and steel bolts.
   e. Can every problem be solved by mathematicians ?

Lesson 5

DISCOVERING NOUN PHRASES

In Lesson 4, you learned an important method for discovering the noun phrases in a sentence. You learned that if a sentence has been transformed according to the passive transformation, you merely locate the constituents which have been interchanged and you have found the NP's-or noun phrases. The passive test for NP's extremely reliable. The passive transformation never interchanges any constituents except NP's. However, it is not always possible to employ the passive test because the passive transformation cannot apply to all structures. For example, consider the following sentence.

The little boy slept late.

In this sentence the constituent "the little boy" is a NP all right but what happens if we put it to the passive transformation test ? We come up with nonsense.

*late was slept by the little boy

Thus, if we want to prove that the constituent "the little boy" is, in fact, a NP, we must find a different test. In this lesson, therefore, we are going to discuss how other transformations can be used in testing for a NP.

Let's start with the question transformation. This transforms a deep structure like

(Question) the monkey will throw the prunes

into the surface structure

Will the monkey throw the prunes ?

This particular kind of question transformation is called the yes-no question transformation. You can see why it's called that. The answer to all questions produced by this transformation may be either "yes" or "no". How can the yes-no question transformation help you locate NP's ? Notice what happens when the yes-no question transformation is applied to "(Question) the monkey will throw the prunes." The moves around the two words "the monkey." The two words "the" and "monkey" are a NP.

word "will"

In other words, what the yes-no question transformation is actually doing is moving the word "will" around a NP. Because this is true, you always have a method for determining the first noun phrase of a sentence. Look at these sentences :

1. The boy who saw you is really an agent for the Department of Agriculture.
2. Harry has lost his purple tie.
3. Yellow flowers couldn't be purchased anywhere.

You can identify the first noun phrase of the sentences simply by applying the yes-no question transformation to the deep structures. When we apply the yes-no question transformation to these structures, we generate the following sentences :

1. Is the boy who saw you really an agent for the Department of Agriculture ?
2. Has Harry lost his purple tie ?
3. Couldn't yellow flowers be purchased anywhere ?

In the first sentence, the word "is" moves around "the boy who saw you." Therefore, "the boy who saw you" is a NP. In the second sentence, the word "has" moves around "Harry." Therefore, "Harry" is a NP. (It may seem strange to you that a single word can be a NP, but you'll see how this is so in the next lesson.) Finally, in the third sentence, "couldn't" moves around "yellow flowers." Therefore, "yellow flowers" is a NP in the sentence "Yellow flowers couldn't be purchased anywhere."

One thing to keep in mind is that the yes-no question test cannot be employed everywhere. For example, in a sentence like this:

The boy kicked the building.

It is certainly possible to form a yes-no question. It would look like this :

Did the boy kick the building ?
But where did the "did" come from ?

You shall see in later lessons that the word "did" along with its other forms "do" and "does" has very special properties. In particular, it exists in the deep structure of sentences such as "The general hated fried oysters," even though it doesn't appear in the surface structure. The word is omitted unless the sentence is a negative sentence like "The general didn't hate fried oysters," or a question like "Did the general hate friedoysters." If all this is true, how can you use the yes-no question test to find out the first noun phrase of a sentence such as "The boy kicked the building." Can you figure out a way ?

Suppose that you first transform the sentence "The boy kicked the building" into a negative sentence, just as the negative transformation does. You will generate the sentence "The boy did not kick the building." Now apply the contraction transformation. You are left with "The boy didn't kick the building" Now apply the yes-no question transformation. The result is

Didn't the boy kick the building ?

Notice that the "didn't" moves around "the boy." Therefore, "the boy" is a NP. What you have done here is to apply the negative transformation, the contraction transformation, followed by the yes-no question transformation. When you do this, you can always determine the first noun phrase of the sentence. Let's look at one more example : "Brutus likes violent action." First, make the sentence negative (and make the contraction while you're at it) :

Brutus doesn't like violent action.

Second, apply the yes-no question transformation :

Doesn't Brutus like violent action ?

Since "doesn't " moves around "Brutus," "Brutus" is a NP.

One of the best tests for NP's is the cleft transformation test. Here are two sentences :

The countess adores stale bread.
The pillar collapsed.

English grammar contains a complex transformation called the cleft-sentence transformation. Look at the effect of this transformation on the two sentences shown just above.

The countess adores stale bread *cleft* What the countess adores is stale bread

A piller collapsed *cleft* What collapsed was a piller.

In both cases, the cleft transformation generated a structure in which some constituent follows "is" or "was". What is this constituent ? This constituent which is *cleft* by the cleft-sentence transformation is a NP. What we did to the original sentence was to put "what" in front of it, and put "is" or "was" before a noun phrase. You can use the passive or yes-no question tests to check the noun phrases.

But even now we don't have a complete solution. For a very good reason (as we shall see), the cleft transformation cannot be used with human noun phrases such as *the man, John, and someone*. For example, we know that *John* is a NP in the following string because it can be moved by the passive transformation :

(Passive) John kicked the ball

But if we tried to apply the cleft transformation, we would not produce a sentence of English :

*What kicked the ball was John.

although we could apply it to the NP *the ball* :

What John kicked was the ball.

You have seen how important noun phrases are in English sentences. They are important precisely because so many important transformations shift them around, or shift order parts around them, in order to produce many types of English sentences. We have not yet considered the properties of the constituents of NP

EXERCISES

1. Applying the tests studied so far, show which is the first NP in each sentence below :

   a. Marvin bothered Alvin.
   b. The tall boy bothered Alvin.
   c. The fact that you were late bothered Alvin.

2. Apply the required transformations to the following deep structures to produce (or generate) surface structures.

   a. Samuel Beckett wrote the novel that was on the table -PASSIVE
   b. (Negative) (Question) Elizabeth Speare was writing The Bronze Bow - PASSIVE, NEGATIVE, QUESTION.
   c. (Negative) (Question) William Faulkner has won the Nobel Prize - NEGATIVE, QUESTION, CONTRACTION
   d. (Question) the principal could play basketball - QUESTION
   e. the boys enjoyed science - CLEFT
   f. the problem destroyed their confidence - CLEFT
   g. the computer generated English sentences - CLEFT
   h. (Negative) the sentence required a verb- NEGATIVE, CLEFT
   i. the bullet hit the wall - PASSIVE, CLEFT
   j. (Question) the boy who was sick liked peaches - QUESTION

3. What kind of NP cannot take the cleft transformation ?

4. Write out the deep structure strings of the following sentence

   a. Did the messenger arrive ?
   b. What baffled me was his attitude.
   c. What doesn't surprise my father is my superb intelligence.
   d. Was Cynthi frightened by Miss Muffett ?
   e. Will the t ll grass hide the antelopes ?

5. Draw tr   s for the following sentences. Be sure to NP for   group of words that is a noun phrase.

   a. The blue-eyed boy sang a folk song.
   b. April is t cruelest month.
   c. Th wh l skyscraper melted.

Lesson 6

THE CONSTITUENTS OF NOUN PHRASES

Until this lesson, you have been studying the constituent structure of whole sentences. You have learned that sentences are composed of constituents and that one of these constituents is the noun phrase, or simply NP. In this lesson, you are going to examine some of the constituents that make up the NP, for NP's - like whole sentences - have their own constituents.

To begin with, use the tests you have learned to select the first NP in each of the following sentences.

1. The flies bothered Dante.
2. A table is not necessarily a wooden object.
3. Henchard stumbled home.

If you applied the tests correctly, you discovered the following NP's to be the first NP's of the sentences above :

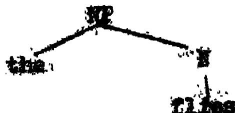
1. the flies
2. a table
3. Henchard

The most important constituent of any noun phrase is the constituent called a NOUN, abbreviated simply as N. It's the most important one because every NP, in its deep structure, contains at least one noun. Noun phrases may contain other constituents besides a noun; but noun phrases must contain at least a noun. You can probably tell the nouns in the NP's we just identified. They are :

1. flies
2. table
3. Henchard

The tree diagrams you make for the three NP's, "the flies," "a table" and "Henchard" can now be improved to show the added information that the three words above are nouns.

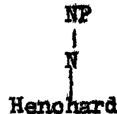
1. the flies



2- a table



3. Henchard



There is one interesting fact which this discussion brings out. Suppose someone asked you to analyze the word "flies". Notice that even though this word is a noun in the sentence "The flies bothered Dante" the word "flies" itself, outside of a sentence, cannot be said to be a noun. Why not ? Look at the word "flies" in a sentence like "Captain Nelson flies supersonic jets." The word is the same, but it is certainly not a noun. In this sentence, the word "flies" is, as we shall see later, a different kind of constituent, one called a VERB, or simply V.

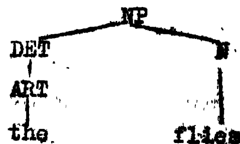
In other words, the word "flies" can be either a noun or a verb. Unless we see the word in a sentence, it is impossible to analyze it. So remember as you read this book, whenever we talk about words being nouns, verbs, or any other constituent, we are talking not about words in the abstract, or words separated from sentence. Whenever we say a word, like "flies," is a noun, we always mean that this word is a noun in a particular sentence.

With this in mind, let us look again at the noun phrases we were discussing, "the flies," "a table," and "Henchard." Notice that the first two noun phrases are different from the third noun phrase in one very important respect. The third noun phrase contains only one constituent, a noun, the noun "Henchard." The first two noun phrases, however, contain two constituents. The first constituent in each noun phrase is called a DETERMINER, abbreviated DET. Some of these determiners, like "the" and "a", are called ARTICLES, abbreviated ART. Look at the articles in the list below.

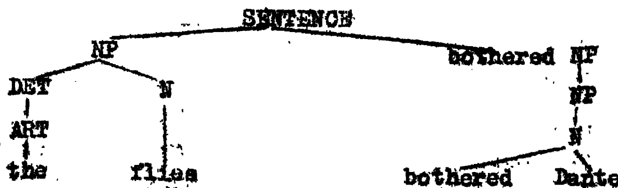
the	The room was still and warm and full of firelight.
a	A strange sea-witch lived in the forest.
an	An evil old woman was cooking the rabbit.
some	Some irregular steep-roofed wooden houses lined the street.
this	This great tract of land is said to be rich in gold.
that	That purple landmark is Johnson's Peak.
these	Those seals used to sunbathe on the brown rocks.
those	Those red oxen will be yoked to the giant plough.

Although you will study several difference among the various article later on, for now you should be able to recognize them and identify them in sentences.

You now know enough to give a more complete description of a NP like "the flies." This description is provided by the deep structure tree below.



If you were to draw a complete phrase structure tree including all of the information that we have available now about the sentence "The flies bothered Dante," it should look like the diagram at the top of page 28.



In this deep structure tree diagram, the constituent DET (the determiner), itself contains only one constituent, the article "the But not all determiners are as simple as this. Look at the

following sentences and pay particular attention to the words on the left of them.

1. all of — All of the warriors hurried away.
2. many of — Many of the whales escaped.
3. several of — Several of the gods were very angry with Achilles.

The words on the left usually occur before articles or other determiners. They are usually called PRE-ARTICLES, abbreviated as PRE-ART. In the sentences above, the pre-articles consist of two words, one word like "all," "many," "several" and the other word is "of".

Look at the sentences below. What has happened to the original sentence you looked at above ?

1. All warriors hurried away.
2. Many whales escaped.
3. Several gods were very angry with Achilles.

The words "all," "many", and "several" are still pre-articles, but they are no longer followed by the word "of." A transformation has done something to "of." It has, in fact, removed it.

Let's complete this lesson by drawing a surface structure tree for the sentence "all of the cats want catnip."



By now you can see that noun phrases are a little more complicated than you might have at first expected. And there is still one other important fact about noun phrases that we will discuss in the next lesson the presence of RELATIVE CLAUSES in some noun phrases. To give you a glimpse of what that means, look at this sentence :

The Cabin which stood near the river looked very solid.

The noun phrase is "the cabin which stood near the river." You know something about the determiner, the article "the", and you know something about the noun "cabin". But what about "which stood near the river"? We shall be looking into that in the next lesson.

EXERCISES

1. Using the tests studied so far, show which is the first noun phrase in each sentence below :

   a. Charles Dickens wrote David Copperfield.

   b. The fact that the hero's life resembled his own life is very noticeable.

   c. The little old man disliked asparagus.

2. Use the required transformations to generate the surface structure of the following strings.

   a. (Negative) Henchard was the main character in a novel by Charles Dickens - NEGATIVE

   b. (Question) Thomas Hardy wrote The Mayor of Casterbridge - QUESTION

   c. (Question) a runaway truck chases the general - PASSIVE, QUESTION.

3. Look back at our discussion of "flies" on page 24. Then use the word "round" in a different way in four sentences.

4. Explain what a PRE-ART is.

5. Name the transformations you have learned so far and write what each one does.

6. Draw the deep structure trees for

   a. Farfrae liked Elizabeth-Jane.

   b. The soldier smashed several of the drums.

   c. One of the trucks brought the sand.

   d. Several of the oysters were eaten by a walrus.

   e. Was the mayor praised by the farmers ?

   f. Can't Michael come ?

Lesson 7

RELATIVE CLAUSES

You have seen that NP's are made up of constituents such as determiners and nouns. In addition, noun phrases may contain other constituents. One of the most important of these "other constituents" is traditionally called a RELATIVE CLAUSE, abbreviated as REL. The group of words "which stood near the river" in the following sentence is a relative clause.

The cabin which stood near the river was falling apart.

First of all, you should know that the words, "which stood near the river," is a part of a NP. The full NP is "the cabin which stood near the river," which you know because when you apply the yes-no question test, the word "was" moves around this group of words and generates the yes-no question sentence below.

Was the cabin which stood near the river falling apart ?

What exactly is a relative clause ? You'll understand the answer better if you remember that we are talking about relative clauses in the surface structure. In the deep structure, a relative clause is very much like a sentence. Look at the relative clause again. What do you know about it ?

Which stood near the river

You know that it is the cabin which stood near the river. The cabin is the real subject of the clause. The word that seems to have taken its place is which. Let's put the original noun phrase back.

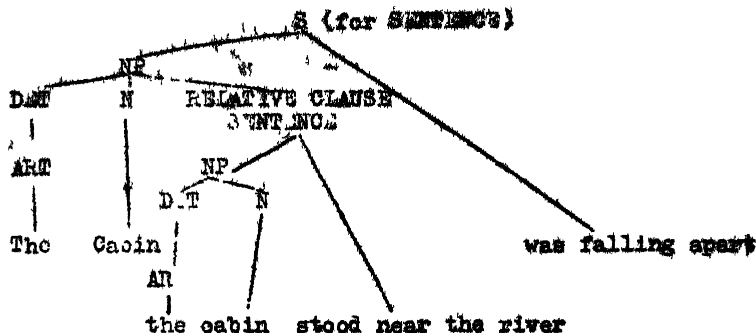
The cabin stood near the river.

You can see right away that this is a good English sentence. But it was changed into a relative clause when it was inserted or EMBEDDED in another sentence. The whole deep string was originally something like

*the cabin the cabin stood near the river was falling apart

Of course, this is not yet an English sentence. You can see that one sentence has another sentence embedded inside it. What happens

now is that the first noun phrase (the subject) of the embedded sentence is taken out and which is put in its place. Let's look at the deep structure tree and see how the whole thing started out.



The relative clause sentence (abbreviated R L S) is part of the noun phrase which is the subject of the main sentence. A relative clause, there is really an embedded sentence - a sentence embedded in a noun phrase. The original embedded sentence loses its subject noun phrase and gets the word which instead. We call this RELATIVIZING. A transformation called the relative clause transformation does the relativizing and the result in the surface structure is.

The cabin which stood near the river was falling apart.

Here are some other sentences with relative clauses.

1. The storm which battered Montreal is now here.
2. The poem which the professor discussed is strange.
3. The city which is on that hill is Damascus.

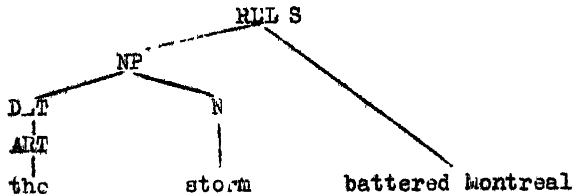
The deep structures for the underlined relative clauses are

1. the storm battered Montreal
2. the professor discussed the poem
3. the city is on that hill

You now know that a sentence embedded inside a noun phrase in the deep structure is transformed into a relative clause in the surface structure.

Now we have to find out what it is that the relative clause transformation does to transform "The storm battered Montreal" into the relative clause "which battered Montreal." The relative clause transformation generates relative clauses by relativizing noun phrases. When a noun phrase is relativized two things happen. First, a relative pronoun, a word like "who," "which," "what" or "that", is put into the noun phrase replacing the determiner and usually causing the removal of the noun.

For example, look at the deep structure for the relative clause "which battered Montreal." It contains a sentence, "The storm battered Montreal which in turn contains the NP "the storm."



When the NP "the storm" is relativized, the result is a noun phrase containing the relative pronoun "which," "which battered Montreal."

The second thing that happens when a noun phrase is relativized is this : If the noun phrase containing the relative pronoun is not the first noun phrase of the sentence, then this noun phrase is moved to the front of the sentence. Look at an example in detail : The poem which the professor discussed is strange. Do you remember the deep structure for the relative clause ? Look again at the tree for "which battered Montreal." The deep structure for "which the professor discussed" is the same kind of deep structure. It is the sentence "The professor discussed the poem and the noun phrase "the poem" is relativized. Now, how does the noun phrase "the poem" become relativized ? Watch very carefully.

First, the relative pronoun "which" is introduced into the NP. This generates the string "the professor discussed which." But this string is not grammatical and is only halfway toward becoming a

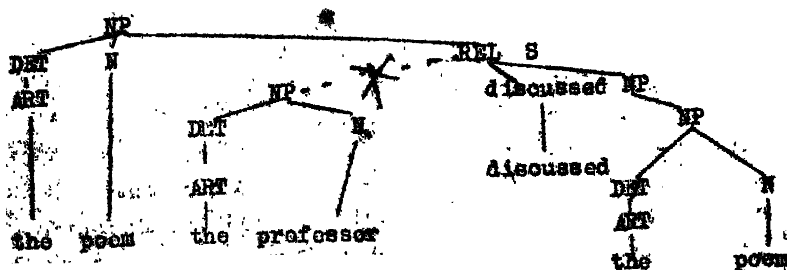
relative clause. The second thing we must do is find out whether or not the noun phrase being relativized is the first noun phrase of the sentence. It is not. So it is moved to the front of the sentence. This generates the relative clause "which the professor discussed." You now know where the relative clause "which the professor discussed" in the sentence "the poem which the professor discussed is strange" actually comes from.

There are actually several transformations involved in relativizing noun phrases. For the present, however, we shall refer to all of these under the heading of relative clause transformation. This transformation first introduces relative pronouns into the noun phrase being relativized. Then, it moves this noun phrase to the front of the embedded sentence - if it is not already there.

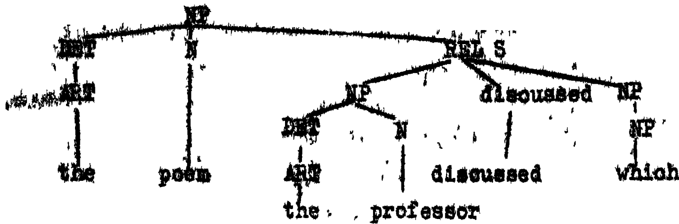
Now let us review how a relative clause is generated. This time we will see how the deep structure tree is gradually changed. We will once more study how

the poem which the professor discussed

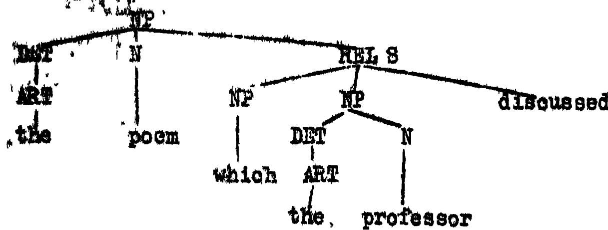
is generated by the relative clause transformation. In the deep structure this NP can be shown as follows



Notice that in the deep structure, the relative clause starts out as a full sentence. When the relative transformation is applied, the noun phrase "the poem" is relativized as "which". This transformatio generates the following tree diagram.



Since the noun phrase being relativized is not the first noun phrase of the embedded sentence which is about to become a relative clause this noun phrase has to be moved to the front of the sentence.



Notice that relative clauses have one very important characteristic. In the deep structure of a relative clause sentence, the NP always contain a noun which is identical to the noun just before the relative clause in the main sentence. For example, in the deep structure of "the poem which the professor discussed," the embedded sentence contains "poem," this sentence being "The professor discussed the poem."

The relative clause transformation transforms sentences embedded in the deep structure into relative clauses in the surface structure. But the relative clause transformation does not tell us everything about relative clauses. For example, it does not explain how the sentence

city which is on that hill is Damascus.

is related to the sentence

The city on that hill is Damascus.

For this we need additional transformations.

EXERCISES

1. Draw deep structure trees for
   a. The city which introduced the pizza won a prize.
   b. The dog that you saw stole a sausage.
   c. The castle which is on the cliff is very ancient.
   d. I met the man who invented scissors.

2. Explain in your own words what the relative clause transformation does.

3. Use the required transformations to generate surface structure from the following strings.

   a. the boy the boy liked apples became a psychologist- RELATIVE
   b. I saw the whale the whale swallowed Jonah - RELATIVE, CLEFT
   c. (Negative) the clown had enjoyed the lobster- NEGATI
      PASSI
   d. (Question) Autolycus was eating grapes- YES-NO QUESTION
   e. the crane seized the trout - PASSIVE, CLEFT

4. List the pre-articles in the following sentences.

   a. Several doctors took most of the fees.
   b. Three of the horses refused their oats.
   c. Some of the sailors mutinied against the Russian government.

5. Give three examples of questions that are not yes-no questions.

6. Invent no more than two transformations to account for the differences between the sentences in each of the following pairs.

   a. The boy who is from Columbus saluted.
      The boy from Columbus saluted.
   b. The duck which is swimming in the pool will be roasted today.
      The duck swimming in the pool will be roasted today.
   c. I bought the mattress that the President admired.
      I bought the mattress the President admired.
   d. The bat which I caught greeted me cheerfully.
      The bat I caught greeted me cheerfully.

Lesson 8

MORE ABOUT RELATIVE CLAUSES

As you learned in the last lesson, the relative clause transformation relativizes a NP by introducing a relative pronoun and moving the NP to the front of the relative clause sentence if the NP is not there to begin with. Applying the relative clause transformation generates relative clauses such as those underlined in the following sentences.

The music that Orpheus loved a harp music.

The castle which is on the cliff is very ancient.

The possession that he talks about most is his sailboat.

Relative clauses can often be transformed further. In this lesson, you will study three important ways in which relative clause constructions can be further transformed after the application of the relative clause transformation.

Begin by comparing the following pairs of sentences. See if you can 1) find the relative clauses in them and 2) determine what has happened to these relative clauses.

1. The fire which he describes is frightening.
   The fire he describes is frightening.
2. There is a book which you should read.
   There is a book you should read.
3. The tree that I saw overhung the gully.
   The tree I saw overhung the gully.

If you were successful in analyzing these sentences, you discovered three relative clauses.

1. which he describes
2. which you should read
3. that I saw

Compare the relative clauses at the top of the next page with the relative clauses in the second sentence of the pairs above and you should see immediately what has happened.

1. he describes
2. you should read
3. I saw

You are right if you think that the relative pronoun in each of the relative clauses has been removed. That's exactly what happened. The relative pronouns "which" in the first pair, "which" in the second pair, and "that" in the third pair have been deleted. The transformation which deletes relative pronouns is called, naturally enough, the <u>relative pronoun deletion transformation</u>. This transformation is optional. That means it may apply or it may not. There is one case, however, in which this transformation cannot apply at all. If the NP relativized was the first NP of the sentence in the deep structure, then the relative pronoun deletion transformation cannot apply. Look at the following example.

The man who had betrayed the city became a general.

In this sentence the relative clause is "who had betrayed the city." In the deep structure, this relative clause was originally "the man betray the city." Since the relativized NP, the one containing "the man" is the first NP of the sentence from the very beginning, the relative pronoun deletion transformation cannot be applied. If we try it, we see that it generates an ungrammatical sentence.

*the man had betrayed the city became a general

Now let us look at a second transformation which transforms relative clauses. Look at these sentences :

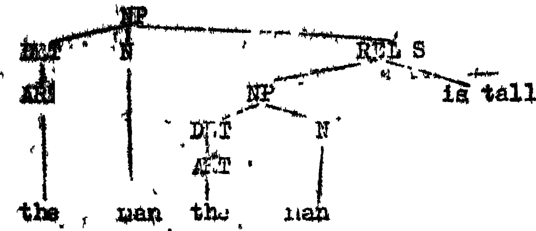
1. The book which is on the table is very interesting.
   The book on the table is very interesting.
2. The king who is defying our duke is called Harold.
   The king defying our duke is called Harold.
3. The log cabin that is by the stream belongs to Eric.
   The log cabin by the stream belongs to Eric.

In these sentences, we see a slightly different transformation, one which deletes two constituents. These constituents are the relativized NP containing the relative pronoun "who," "which," or "that" and the constituents containing the word "is". This transformation is called the <u>relative "be" deletion transformation.</u>

The relative "be" deletion transformation plays a very important role in the generation of sentences like

The tall man came late.

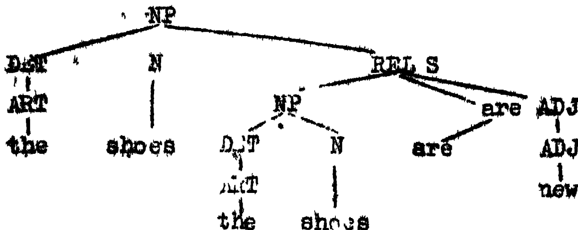
In its underlying deep structure, the NP "the tall man" actually contains a relative clause sentence "The man is tall."



This deep structure tree is transformed by the relative clause transformation into "The man who is tall." Notice that the sentence "The man who is tall came late" means exactly the same thing as "The tall man came late." This is because the structure of the first sentence is actually transformed into the structure of the second sentence. How does this happen ?

First, the structure "The man who is tall came late" is transformed in *"the man tall came late" by the relative "be" deletion transformation. Now a second transformation called the adjective transformation, transforms "*the man tall came late" into "The tall man came late".

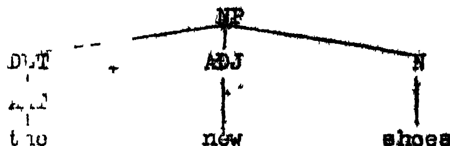
Now, look at the deep structure for the noun phrase "the new shoes" in the sentence "The horse wears the new shoes."



Below are the main steps in the generation of the noun phrase "the new shoes."

the shoes the shoes are new relative clause transformation
the shoes which are new relative "be" deletion
the shoes new adjective transformation
the new shoes

The adjective transformation is applied whenever a word like "new" follows right after a noun. For example, the adjective transformation takes place when the word "new" follows the noun "shoes." What does the adjective transformation do ? It moves words like "tall" or "new" around to the other side of the noun. For the time being, let us call words like "new" ADJECTIVES, abbreviated ADJ. Now you can show the surface structure of the noun phrase "the new shoes" like this.



EXERCISES

1. Draw deep structure trees for

   a. The man who won that race is a writer.
   b. The noisy teachers surprised the visitors.
   c. A Canadian captain shot the snake.

2. Use the transformations indicated to generate surface structures for the following strings. Show each stage of generation.

   a. (Question) the surgeon the surgeon was skillful was removing an appendix - RELATIVE CLAUSE, RELATIVE "BE" DELETION, ADJECTIVE, QUESTION.

   b. he admired the folk-singer the folk-singer had a shaggy beard - RELATIVE CLAUSE.

   c. the dog the dog rescued Friar Tuck devoured the steak - RELATIVE CLAUSE, PASSIVE

   d. (Question) a boy the boy is hard-working can run this store - RELATIVE CLAUSE, RELATIVE "BE" DELETION, ADJECTIVE, PASSIVE, QUESTION

   e. a mole the farmer saw the mole ruined my lawn - RELATIVE CLAUSE, RELATIVE PRONOUN DELETION, PASSIVE

Lesson 9.

FEATURES OF THE NOUN

Think about these two sentences.

1. The wall licked its lips.
2. The cat licked its lips.

The first sentence seems peculiar somehow, doesn't it ? Only in fairy tales, nursery rhymes, and imaginative literature do objects like walls, dishes, spoons, and stones do things like this. Do you remember

... and the dish ran away with the spoon

We do not normally think of a wall as being able to lick anything, and certainly not its own lips. In the first sentence above, you might think the meaning is ridiculous and not think about the grammar at all. But the fact that the meaning is ridiculous is closely connected to the grammar of English. Nouns like "cat" are said to be animate. Others, like "wall," "happiness," and "book" are inanimate.

You should build a special dictionary or LEXICON for keeping a record of information such as whether a noun is animate or inanimate. When a noun is animate, we say it is plus animate (+animate). When it is inanimate, the noun is not animate, or minus animate (-animate). So, your lexicon would show a noun like "wall" in the following way.

wall
+N
-animate

The symbol -animate is called a feature. The symbol +N means that the word is a noun. How would your lexicon describe the noun "cat"? Like this :

cat
+N
+animate

In addition to being animate or inanimate, nouns are either common nouns or proper nouns. A noun like the name "Oklahoma" is a

proper noun. Furthermore, it is an inanimate noun. Thus, it is written in our lexicon with the feature -common , meaning proper and -animate

Oklahoma
+N
-common
-animate

The noun "John" is a proper noun which is animate. Your lexicon should show "John" this way.

John
+N
-common
+animate

The noun "coat" is common noun, marked +common . It is also inanimate.

Coat
+N
+common
-animate

The noun "dog" is common and animate.

dog
+N
+common
+animate

These four examples represent the four kinds of nouns studied so far: proper animate, proper inanimate, common animate, and common inanimate. Note also that nouns that might seem to you to be animate, like plant, oak, grass, and parrot are usually treated as inanimate.

But all nouns which are animate don't have the same properties. Which of the following looks more grammatical to you?

1. the article bowed and made a patriotic speech
2. the general bowed and made a patriotic speech

In books like Alice in Wonderland both sentences might seem equally grammatical. But even in books like Alice, part of our enjoyment comes from the strangeness of the world described in the book. This strangeness is communicated to us in sentences which might also seem strange in our everyday world.

Now all this might at first seem to have little to do with grammar but in fact it has a great deal to do with it : Nouns which stand for human beings have different grammatical properties from those which stand for nonhuman things. Why are the following grammatical :

1. The buffalo which bit me last night suffered from indigestion.
2. The man who came is a friend of yours.

while these are ungrammatical :

3. *the buffalo who bit me last night suffered from indigestion.
4. *the man which came is a friend of yours.

The difference between human (+human) and nonhuman (-human) nouns is very important in English for grammatical reasons. The relative pronoun <u>who</u> follows only after human nouns whereas the relative pronoun <u>which</u> follows nonhuman nouns. Strangely enough, though both sentences below sound ungrammatical to most of us, the first one (but not the second) , is occasionally heard in a few dialects of American English

*the boy which I saw yesterday was tall
*the boy who I read yesterday was green

Not only can we classify nouns as either animate or inanimate, and proper or common, but we also classify animate nouns as human or non-human. The lexicon entries for <u>skunk</u> and boy are.

skunk	boy
+N	+N
+common	+common
+animate	+animate
-human	+human

The entry for <u>George Washington</u> would appear in the lexicon as

George Washington
+N
-common
+animate
+human

The last noun feature we shall study is the one which tells us whether a noun is concrete or abstract. If we, as native speakers of English did not understand this difference, we might well accept the following sentences as grammatical.

*we amazed the truth
*happiness weights ten pounds
*he painted the feeling blue
*the thought shattered when it hit the floor
*he kicked the idea hard

Normally, these would sound strange to us. In very imaginative literature such sentences would make up stop, think, and perhaps analyse feelings about them. The great modern poet, T.S. Eliot, did not write

"I have measured out my medicine in coffee spoons,

but the much more surprising line

"I have measured out my life in coffee spoons."

Life is certainly not what one expects to be measured out in coffee spoons. It is this element of the unexpected that makes up stop to think about what the line really means.

The noun life, like happiness, thought, and death, does not stand for anything we can touch or feel. Words like kicked and painted cannot be used with such nouns in sentences the way they were in the sentences earlier. Nouns like dog, house, and man represent objects that may be touched, smelled, or weighed. Such objects are called concrete (+concrete), whereas, nouns like happiness we call abstract or non-concrete (-concrete).

Now your entries in the lexicon will be much more detailed. Happiness and skunk would appear thus .

happiness	skunk
+N	+N
+common	+common
-concrete	+concrete
	+animate
	-human

Notice that the word happiness is also -animate and -human . You do not need to include this information in the lexicon, however, because you know that all nouns which are nonconcrete -concrete must be both inanimate -animate and nonhuman -human

Let's now summarize what we have learned about the features of nouns :

1. Nouns may be either common or proper.
   (+common or -common).
2. Nouns may be either concrete or abstract.
   (+concrete or -concrete).
3. Concrete nouns only can be animate or inanimate.
   (+animate or -animate).
4. Animate nouns only are either human or nonhuman.
   (+human or -human).

EXERCISES

1. Draw surface structure tree diagrams for the following sentences :
   a. A noun which is not a common noun is a proper noun.
   b. The poet who wrote "Birches" is Robert Frost.
   c. Coleridge described a mariner who sailed into mysterious seas.
2. Copy the following nouns and show their features as they would be shown in the lexicon discussed in this lesson. The first one is done for you.
   a. Odysseus

      Odysseus
      +N
      -common
      +concrete
      +animate
      +human

   b. disgrace
   c. Indianapolis
   d. anteater
   e. scientist
   f. sky

g. politics
h. paint
i. Lassie
j. ranch

3. Write a [illegible]otal of ten sentences using a different noun from the list in n[illegible]ber [illegible] in each sentence. After each common noun add a relat[illegible] clause.

4. Who, w[illegible]c[illegible] that begin most relative clauses. What are the import[illegible]nt [illegible]ferences among them?

5. Apply th[illegible] [illegible]icated transformations to the following strings:
   a. t[illegible] [illegible] venged the king's death - PASSIVE
   b. ([illegible] [illegible]wton picked an apple - PASSIVE, NEGATIVE
   c. ([illegible] [illegible]estion) Einstein solved the problem -NEGATIVE, [illegible] [illegible]TION
   d. [illegible] [illegible] [illegible]d intelligence - CLEFT .
   e. ([illegible]) the bulldozer smashed the wall - NEGATIVE

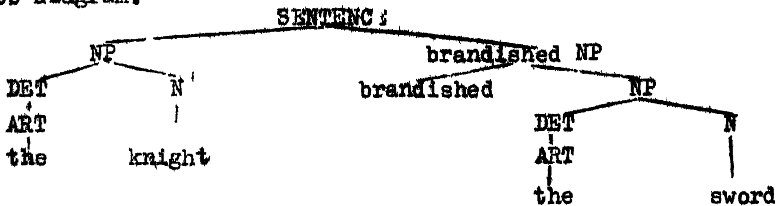
6. Draw d[illegible] [illegible]ructure trees for the following sentences :
   a. The [illegible] [illegible] fruitseller brought a gift.
   b. The [illegible] [illegible] by the lake is a hospital.
   c. [illegible] [illegible] was grown by the elderly gardener.

7. Make [illegible] [illegible]ings of words that the ungrammatical because some [illegible] [illegible] for noun features have been broken.
   a. [illegible] [illegible] carved the hope out of stone.
   b. t[illegible] [illegible] that it would amaze happiness.

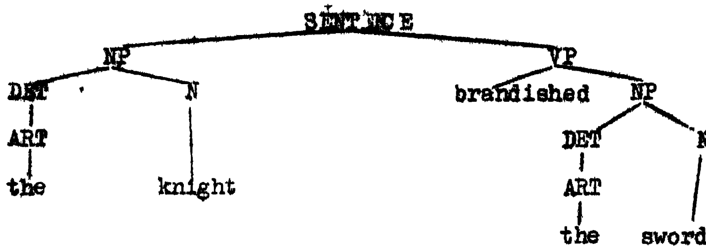
Lesson 10.

THE VERB PHRASE

By now, you should have no trouble at all giving a deep structure for sentence like "The knight brandished the sword." If you draw the deep structure for this sentence, you will arrive at the following tree diagram.



Looking at this tree diagram, you can see that it contains an important constituent which we have not yet identified. This is the constituent "brandished NP," one of the two major constituents into which sentences are divided. It is called a VERB PHRASE. The abbreviation for verb phrase is VP. So, you can now redraw the tree diagram and insert the new name:



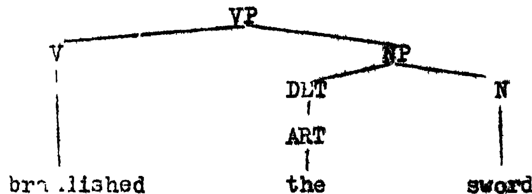
Sentences in English contain a noun phrase and a verb phrase. Without too much difficulty, we can devise a shorthand way of expressing this information. What we do is to write what is called a PHRASE STRUCTURE RULE. The phrase structure rule which says that sentences contain a noun phrase and a verb phrase is written like this :

$$S \longrightarrow NP + VP$$

The arrow, $\longrightarrow$, means "contains" or "is made up of." You can see that this phrase structure rule says that a sentence is made up

of a noun phrase and a verb phrase. Phrase structure rules are very important because they tell us exactly what the deep structures of English are.

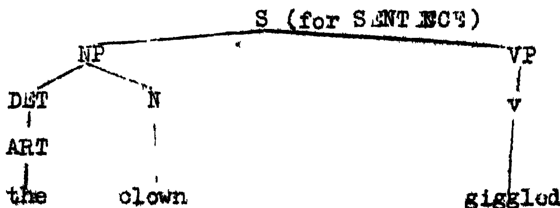
We must look more closely at the constituents of the verb phrase. Take, for example, the VP "brandished the sword." One of the constituents of this verb phrase you can identify immediately. In fact, we did so when we drew the tree for the sentence earlier. This is the constituent "the sword" which is a noun phrase. The other constituent, containing the word "brandished" is a verb, abbreviated v. Now you can draw the tree diagram for the verb phrase "brandished the sword."



The most essential constituent of a verb phrase is a verb, in the same way that the essential constituent of a noun phrase is a noun. In the deep structure, every verb phrase has at least one constituent, a verb. Here is an example of a sentence in which the verb phrase contains only the constituent v.

The clown giggled.

You could determine that the deep structure for this sentence is



Suppose you want to describe the deep structure of verb phrases in English using a phrase structure rule. You would find that you need two rules, one for the verb phrase which contains a verb and

a noun phrase and one for the verb phrase which contains only a verb. Here is the first rule.

VP ⟶ V + NP

This rule says that the verb phrase is made up of a verb and a noun phrase. An example of such a verb phrase is "ate soggy pretzels" in the sentence "The old sailor ate soggy pretzels." The second rule is this :

VP ⟶ V

This rule says that the verb phrase contains only a verb. Can you think of an example ? How about the verb phrase in the sentence "The fat frog croaked"?

We can put these two phrase structure rules into one rule in the following way.

VP ⟶ V + (NP)

Whenever parentheses () are placed around a constituent, that constituent may or may not be present. In other words, the constituent is optional. The above rule says that a verb phrase must contain a verb; it may or may not contain a noun phrase. This is a true statement about all verb phrases in English.

One of the most important kinds of verb phrases contains the verb "be", or one of its many forms such as "is", "are", "was", and "were". Here are two examples of sentences with verb phrases of this sort.

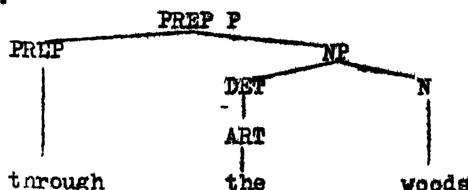
The boarding party was successful last week.
The newstand is beside the bank.
The freckled fruitseller thought about the problem.

You know that the VP is "thought about the problem" and you know that the verb is "thought". But what is the constituent "about the problem"? You know it is not a NP, because if it were, you could construct a cleft sentence from it. Let's try the cleft transformation. According to what we discussed earlier, we put what in front of the string and was just before "about the problem."

What the freckled fruitseller thought was about the problem

The fact that this string is an ungrammatical sentence means that "about the problem" is not a noun phrase. So, what is it ?

This constituent is what is called a <u>prepositional phrase</u>, abbreviated as PREP P. A PREP P contains two constituents of its own. One of these you should be able to identify immediately. In the prepositional phrase "about the problem", "the problem" is a noun phrase. The other constituent which makes up a prepositional phrase is called a PREPOSITIONAL, abbreviated simply as PREP. There aren't two many prepositions in English. Some of them are the words "to", "from", "through", "around", "above", "past", "into", "in", "before", "towards", and "on". In a prepositional phrase, a preposition is always followed by a noun phrase in the deep structure. The deep structure for the prepositional phrase like "through the words" in the sentence "The wise old woodcutter wandered through the woods" looks like this :



So, now you know that verb phrases, in addition to containing a verb, may also contain a prepositional phrase. This means that we must add something new to the phrase structure rule for verb phrases. Earlier, we wrote the rule in this way :

VP ⟶ V (NP)

We must now somehow combine with this rule the new phrase structure rule

VP ⟶ V (PREP P)

The new rule says that a verb phrase may contain a prepositional phrase, but it doesn't have to. We can combine the two rules in the following fashion.

VP ⟶ V + { NP / PREP P }

The wiggly braces show that a verb phrase may contain __either__ a NP __or__ a PREP P. The fact that parentheses surround the two constituents (and the wiggly braces) means that a verb phrase needn't contain either constituent. It may contain nothing more than a verb.

Count the number of different kinds of verb phrases this rule describes. The number is three because this rule is an abbreviation for the following three rules.

$$\begin{aligned} VP &\longrightarrow V + NP \\ VP &\longrightarrow V + PREP\ P \\ VP &\longrightarrow V \end{aligned}$$

You have studied the two major constituents of the deep structure of an English sentence, namely, the noun phrase and the verb phrase. You now need to know what relation each has to the other constituents and to the sentence. Once you have done this you should be able to see the grammar as a whole.

EXERCISES

1. Carry out the transformation listed beneath each string until surface structures are generated.

   a. his sincerity amazed the leader
      PASSIVE

   b. the cactus __the cactus won the award__ hurt my finger
      RELATIVE CLAUSE
      PASSIVE

   c. the painting __I saw the painting__ impressed the critic
      RELATIVE CLAUSE
      RELATIVE PRONOUN DELETION
      PASSIVE

   d. the rose __the rose was yellow__ was growing on a brown trellis
      RELATIVE CLAUSE
      RELATIVE "BE" DELETION
      ADJECTIVE
      YES-NO QUESTION

e. the lady the lady is dignified is the queen
RELATIVE CLAUSE
ADJECTIVE

f. the boat the boat is beside the dock surprised the visitor
RELATIVE CLAUSE
RELATIVE "BE" DELETION
PASSIVE

2. Copy the following nouns and show their features as they would be shown your lexicon. The first one is done for you.

a. California = California
+N
-common
+concrete

b. steel

c. snake

d. tree

e. John Glenn

f. leopard

g. Los Angeles

h. fury

3. Draw the deep structure trees for

a. The speckled trout crossed the broad river.

b. A man on stilts came.

c. Was a happy man cutting my grass?

d. What changed the situation was a crisis.

e. The girl on that trapeze was trained by Pavlov.

f. Is the house cleaned by that old woman ?

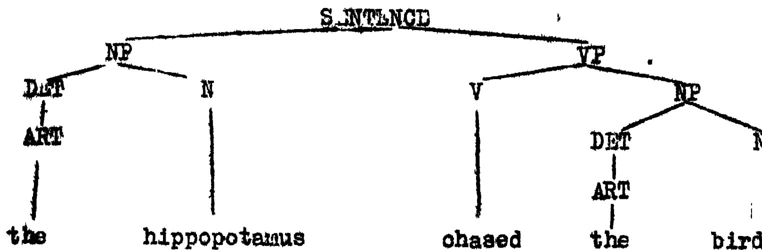
Lesson 11.

DEEP SUBJECTS AND DEEP OBJECTS

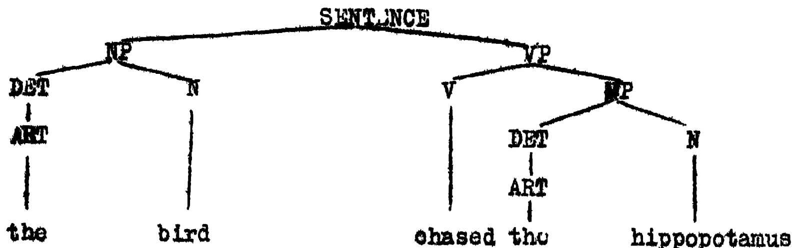
Both of the sentences below contain exactly the same words. Why do they mean entirely different things?

1. The hippopotamus chased the bird.
2. The bird chased the hippopotamus.

To answer this question you must examine the deep structures of the two sentences. The deep structure for sentence 1 is this.:



The deep structure for sentence 2 is this :



Notice that sentence 1 contains two noun phrases, "the hippopotamus" and "the bird". Sentence 2 contains exactly the same noun phrases. The difference is obvious, isn't it? The positions of these noun phrases in the deep structure are different in the two sentences. For sentence 1, the NP "the hippopotamus" is located immediately below the constituent S.

NP

When one constituent is located immediately beneath another, we say that such a constituent is IMMEDIATELY DOMINATED by the constituent on top. So, in the deep structure for sentence 1, "the hippopotamus chased the bird," the NP "the hippopotamus" is immediately dominated by the constituent SENTENCE. The NP which is immediately dominated by SENTENCE in the deep structure has a special name. It is called the DEEP SUBJECT OF THE SENTENCE. In the deep structure for the sentence 1, "The hippopotamus chased the bird," "the hippopotamus" is the doer of the activity. What is the activity? It is chasing the bird. Sometimes the deep subject tells us other than who is the doer of the action. For example, look at "The hippopotamus resembles the water buffalo." In this sentence, there is no action. Resembling something is not really doing something. To resemble something is more like being something. So, in this sentence, when you know that "the hippopotamus" is the deep subject of the sentence "The hippopotamus resembles the water buffalo", you also know that "the hippopotamus" is a thing in a particular kind of state. The state is one of "resembling a water buffalo."

When we say that a noun phrase, like "the hippopotamus" is a deep subject of a sentence, what we are really saying is that the noun phrase "the hippopotamus" is in a very special place in the deep structure. Any NP which is the deep subject of a sentence must be immediately dominated by the constituent "SENTENCE, (S)."

It is very important to remember that when we talk about a particular NP being the deep subject of a sentence, we are talking about the FUNCTION of that NP.

How would you answer this question : How does the NP "the hippopotamus" function in the deep structure for sentence 1? You should answer this question by saying that this NP functions as the deep subject of the sentence.

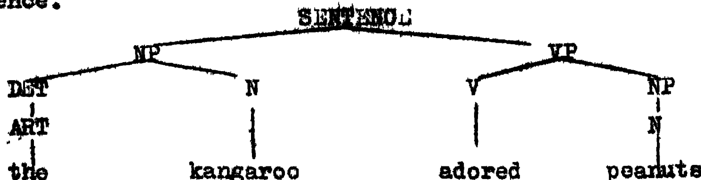
You can now see why sentence 1 means something different from sentence 2. What is the deep subject of sentence 2? Look at the deep structure tree diagram for sentence 2 and you will see that the NP which functions as the deep subject of this sentence is the NP

"the bird". This NP is the one immediately dominated by S (the abbreviation for SENTENCE). In this case, the fact that the deep subjects are different in the two sentences, 1 and 2, explains why the sentences mean different things.

Look again at the deep structure for sentence 1. Notice the position of the NP "the bird". This NP is immediately dominated by the verb phrase, VP, and not by SENTENCE.



There is a name for the NP which functions in this way. A noun phrase which is immediately dominated by a VP in the deep structure is called the DEEP OBJECT OF THE VERB PHRASE. What is the deep object of the VP "adored peanuts" in the sentence, "The kangaroo adored peanuts"? The deep object is the NP containing "peanuts". You can prove this by constructing a deep structure tree diagram for the sentence.



The NP immediately dominated by VP is the NP containing the noun "peanuts". Therefore, "peanuts" is the deep object of the verb phrase "adored peanuts".

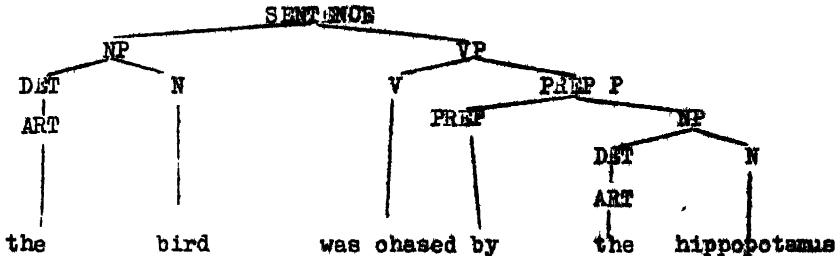
The reason that we have been using the word "deep" to describe subjects and objects is important. The deep subject of a sentence and the surface subject of a sentence are often not the same thing. Look at the sentences

1. The hippopotamus chased the bird.
2. The bird was chased by the hippopotamus.

Both of these sentences have the same deep structure (which you can draw in a tree diagram). The passive transformation has been applied to the deep structure to generate sentence 2. What is the deep subject of the first sentence, "The hippopotamus chased the bird"? It is "the hippopotamus".

Now, think very carefully before answering this question. What is the deep subject of the second sentence, "The bird was chased by the hippopotamus"? The deep subject of this sentence is also "the hippopotamus". Why is this true? "The hippopotamus" is the deep subject of sentence 2 because it is the subject of the deep structure of the sentence "The bird was chased by the hippopotamus". THE TERM "DEEP SUBJECT" ALWAYS MEANS THE SUBJECT OF THE DEEP STRUCTURE OF A SENTENCE. Therefore, whenever you are asked to find the deep subject of the sentence, you must do two things. First, you must find the deep structure of the sentence. Second, you must find the NP which is immediately dominated by SENTENCE. This NP is always the deep subject of the sentence.

But what is the surface subject of sentence 2? The surface subject of the sentence is also a noun phrase. Furthermore, it is the noun phrase which is immediately dominated by the constituent SENTENCE. Think about the surface structure of the sentence "The bird was chased by the hippopotamus".



The surface subject of this tree diagram is the NP containing "the bird". This NP is immediately dominated by the constituent SENTENCE. But this NP is a surface subject because the tree diagram represents a surface structure, in particular the surface structure of the sentence "the bird was chased by the hippopotamus".

Subjects, regardless of whether they are deep or surface subjects, are always those NP's which are immediately dominated by SENTENCE. But the deep subject is the NP dominated by SENTENCE in the deep structure. The surface subject is the NP dominated by SENTENCE in the surface structure. In certain sentences, like "the hippopotamus chased the bird," the deep and surface subjects are the

same NP. They are the same because "the hippopotamus" is the subject NP of the deep structure and, since no transformation has changed the position of this NP, it is also the subject of the surface structure.

EXERCISES

1. Draw the deep structure trees of the following sentences.

   a. The house which I preferred overlooked the lake.
   b. Was the shark caught by Hemingway ?
   c. What we heard was a high-pitched whistle.
   d. The fortress on that mountain was built by the conscientious Romans.

2. List the deep subjects of the following sentences.

   a. Samson was blinded by the Philistines.
   b. Will the President discuss our foreign policy ?
   c. The cat sat on the Cadillac.
   d. What I enjoyed was the Shakespeare play.

3. What is the reason for showing that some nouns are abstract, some animate, and some human ?

4. What does "immediately dominate" mean ? Use both words and diagrams in your explanation.

5. Show the features of the following nouns.

   a. bear
   b. San Antonio
   c. Churchill
   d. armchair
   e. milkman
   f. inspiration

6. Explain in your own words what the deep subject tells us. Remember what it tells us when it occurs before a verb like "chase" and what it tells us when it occurs before a verb like "resemble".

7. Apply the indicated transformations to the following strings.

   a. (Question) Joseph was wearing a coat of many colors - QUESTION
   b. the truth I discovered the truth astonished the crowd - RELATIVE CLAUSE, RELATIVE PRONOUN DELETION, PASSIVE.

8. Try to explain why it is likely that a person's understanding of his own language depends upon his natural ability to work out the deep structure of a sentence rather than the surface structure.

Lesson 12

DEEP AND SURFACE STRUCTURE

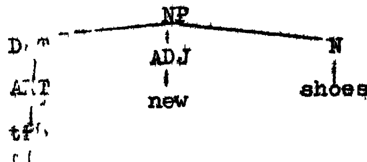
By far the most important fact which you have learned during your study of these lessons is that all sentences in English, and for that matter, in every language, have a deep structure and a surface structure. Perhaps it surprised you to learn this several lessons ago, but if you think seriously about language and the way in which it is used, you will quickly see that both deep and surface structures play a very important role in determining how human beings use language.

Think for a moment about a person who knows English and is listening to someone else speak to him in English. Imagine that the person listening is you and that you are listening to the weather report on the radio. What is coming out of the radio? English, you might say. Or you might say that a message about the weather is coming out of the radio. Both answers are true, of course. But these would not be the answers of somebody who did not know any English. The person knowing no English would hear nothing but a continuous stream of noise or sound. He might recognize that a human voice was producing the noise, but this noise would have no meaning to him. What does the hearer have to do in order to understand the message, to know, in other words, that this continuous stream of noise is a weather report ? What he has to do is this : He must somehow connect the sound that he hears with a meaning of the sound. He must find some way to pick the meaning out of the continuous stream of noise which beats upon his eardrums.

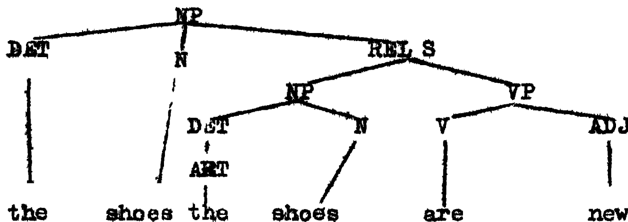
The person listening to the noise must have, in his brain, an interpreter which will process the noise that is put into his brain and in some way reveal to him the meaning of the noise.

The general problem of understanding a language is finding the meaning in the sound. This is precisely what you are able to do when you hear English sentences spoken. What does this have to do with deep and surface structure ? The answer is simple : everything !

It is the deep structure of a sentence which tells you what the meaning of a sentence is. For example, remember when we discussed noun phrases like "the new shoes". You discovered that this noun phrase, which has the surface structure,



actually came from a noun phrase containing a relative clause, as in "the shoes which are new". Furthermore, you saw that this relative clause was based upon an embedded sentence in the deep structure "The shoes are new", the deep structure of the noun phrase being that shown below.



What is the meaning of the noun phrase "the new shoes"? Part of the meaning is the meaning of the sentence "The shoes are new". When someone tells you that "the new shoes have arrived", you know that "the shoes are new". Now, notice carefully : It is not the surface structure which tells you that the shoes are new. it is the deep structure. It is the deep structure that tells you the meaning of a sentence.

Let's go back to the problem of understanding the weather report. What do we do when we understand what the weather forecaster is saying ? What we do is figure out, quite unconsciously, without thinking about it at all, the deep structure of the sentences we are presented with.

I pushed her into the lake because I wanted to.

Notice that following the word "to" at the end of this sentence, a transformation has deleted the verb phrase "push her into the lake". The full sentence, which would be given in the deep structure, is this :

I pushed her into the lake because I wanted to push her into the lake. This is what the original sentence means. You knew it all the time. But you were not given this information by the first sentence. Remember, the first sentence does not contain the verb phrase "push her into the lake". Only the deep structure for the first sentence contains this verb phrase. Therefore, it is only the deep structure of the sentence "I pushed her into the lake because I wanted to" which tells you the meaning of the sentence. In short, we figure out the meaning of a sentence from its deep structure and only from its deep structure.

The surface structure of English sentences is the structure which tell us how to actually use English in communication. The surface structures of English tell us how to express all the information contained in a deep structure. For example, think for a moment about the deep structure given above which contains the embedded sentence "The shoes are new". In order to construct a message or a sentence which expresses the information contained in the deep structure, we must use a surface structure. Only surface structure tells us how to convey messages in a human language. In the case we are talking about, two surface structures for the one deep structure are available. One, as you will recall, is the noun phrase "the shoes which are new". The other is "the new shoes". The point to remember is that it is surface structures and only surface structures which tell us how to express the information or the message contained in a deep structure.

Now you should see clearly that every English sentence can be discussed in terms of its deep structure and its surface structure.

The deep structure tells us what we need to know about the meaning of the sentence. The surface structure tells us what we need to know about how to express the meaning contained in a deep structure.

But, how is the deep structure related to the surface structure? How is the meaning of a sentence related to the particular form in which the meaning is expressed in communication ? You know the answer to this question. The deep structure is related to the surface structure by transformations. Transformations transform deep structures into surface structures. In doing this, transformations serve as the bridge between the deep structure of sentences and the surface structure of sentences.



As you saw, not all transformations have to be carried out. Many are optional. We can choose whether we want to say "the new shoes" or "the shoes which are new".

Language presents us with a series of choices but each choise we make narrows down the other choices available to us. If we choose a (-animate) noun, like <u>steel</u>, we cannot in normal English use a verb like <u>hope</u>, which has to have a (+animate) noun as subject. If this were not true, the following nongrammatical string could be generated.

*Steel hopes to dance the rhumba

Writers, however, sometimes break these rules deliberately in order to create fresh, vigorous language :

Steel sings with the joy of strength
Iron grumbles as the girders strain
The street carstremble on the rusty length
And the brown rust curmbles
In the soft-falling rain.

In our everyday speaking and writing we very rarely use verbs like "sing" or "crumble" after nouns like steel or iron. We follow the rules and poets break them.

It seems strange that people from other lands who know absolutely no English have to spend so much time learning rules to learn English, when skilled writers deliberately break these rules in order to stimulate our imaginations and create a new kind of world for us. One thing is certain : we need to be in full command of our language in order to do what poets do - and do it successfully.

For the present, we are studying the way our language normally operates. Writers sometimes vary the rules but they cannot change them too much if they wish to be understood. And before they experiment with language, they must already know the kind of facts about our language you have been learning here.

Language, like every human being who uses it, is complicated. But it is fascinating because it is an essential part of what makes us human. In studying our language we are really studying ourselves.

EXERCISES

You should now know enough to write two compositions using your knowledge about language.

1. Knowing one's own language really means more than just knowing the meaning of every word or almost every word of a language. Explain in three to five paragraphs what else we know about our language. Review the first lesson before you write.

2. What language problems do you think a foreign student has to overcome when he comes here to learn English ?

—

GRAMMAR 2

Developmental Edition

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GINN AND COMPANY

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The form and content of the rules of English grammar presented in these lessons are adapted from the conceptions of both traditional and contemporary grammarians. Of the traditional grammarians, Otto Jespersen has had great influence on the authors through his treatise, A Modern English Grammar on Historical Principles. The ideas of many contemporary grammarians have been incorporated into these lessons, but of special importance to the development of our presentation have been the following contributions : Noam Chomsky, The MIT Press, Aspects of the Theory of Syntax, Cambridge, 1965, Jerrold J. Katz and Paul M. Postal An Integrated Theory of Semantic Descriptions, The MIT Press, Cambridge 1964; George Lakoff, Deep and Surface Grammar, The MIT Press, Cambridge (to appear in 1967); Peter S. Rosenbaum, The Grammar of English Predicate Complement Constructions, Ph.D. Dissertation, Massachusetts Institute of Technology, 1965; Peter S. Rosenbaum, "The IBM English Grammar, II, "Specification and Utilisation of a Transformational Grammar, in preparation for Air Force Cambridge Research Laboratories, Office of Aerospace Research, Yorktown Heights, 1966; Paul M. Postal and Peter S. Rosenbaum, English Sentence Formation : Recent Advances in Transformational Analysis, Addision-Wesley Publishing Company, Reading, Massachusetts (in preparation).

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CONTENTS

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Lesson 1

SENTENCES AND THEIR CONSTITUENTS

The English language, and every other language spoken in the world, is a vast collection of sentences. The number of sentences in English is so huge that it is difficult to understand how anyone can learn English in the first place. Nonetheless, you have learned English and in doing so, you have learned how to speak a limitless number of sentences which you had not spoken before and also how to understand a limitless number of sentences never heard before. When we study the grammar of a language, what we are actually doing is answering the question "How?" How are we able to accomplish the fact of speaking and understanding sentences we have never heard before?

Sentences are more than groups of words strung together. Sentences in English are structured groups of words; words fall into natural groups and anyone who knows English can usually identify these groups with little difficulty. For example, look at this sentence.

The old man cackled.

If you were asked to divide this sentence into its two natural parts, what would you do? You would certainly not divide it like this :

the old   man cackled

You would divide the sentence in the following manner.

the old man   /   cackled

When you divide a sentence in this way, we say that you have divided the sentence into its two basic constituents.

Sentences have two basic constituents. The first is called a NOUN PHRASE, abbreviated NP. An example of a noun phrase is the constituent "the old man". The second constituent is called VERB PHRASE abbreviated VP. The VP in the sentence "the old man cackled" is the constituent of the sentence containing the word "cackled". We can draw a tree diagram which shows the two basic constituents of a sentence. Such a tree diagram looks like this.



The constituent, NP, the noun phrase, is itself made up of constituents. The main constituent of an NP is a NOUN, abbreviated simply by N. All NP's contain at least one noun. In the noun phrase "the old man," the word "man" is a noun.



Nouns have many different properties. For example, nouns can be common, like the nouns "book," "man," and "truth," or nouns can be proper, like the names "George Washington", "Los Angeles", and "Billy". When a noun is a common noun, it is said to have the feature +common. When a noun is proper, it has the feature -common. Nouns are either concrete, like "wall" and "butter", or abstract, like "luck" and "faith". Concrete nouns have the feature +concrete. Abstract nouns have the feature -concrete. Concrete nouns are either animate, like "skunk" and "whale", or inanimate, like "paper" and "milk". Animate nouns are shown with the feature +animate. Inanimate nouns have the feature -animate. Finally, animate nouns are either human, with the feature +human, or nonhuman, having the feature -human. Human nouns are nouns like "Bertha" and "girl", while non-human nouns are nouns like "flea" and "dog". We keep track of the features of nouns by building a special kind of dictionary, called a lexicon, in which nouns, along with their features, are listed. For example, the noun "boy" is listed in the lexicon like this:

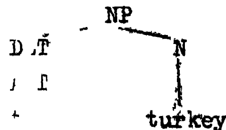
Boy
+N
+common
+concrete
+animate
+human

This lexicon entry [illegible] that "boy" is a noun, +N, which is common, concrete, [illegible], and human. Here is the entry for the noun "truth".

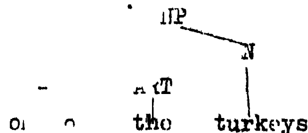
truth
+N
+common
-concrete
-animate
-human

This lexicon ent[illegible] as that "truth" is a noun which is common, abstract, inanim[illegible]t[illegible], [illegible]d nonhuman.

Noun phras[illegible] con[illegible] in other constituents besides nouns. For example, a nou[illegible] phras[illegible] ay contain a determiner, abbreviated DET. A determiner i[illegible] ith[illegible] r a[illegible] article, abbreviated ART, which is a word like "the", "[illegible]", "this", "that", "these", "those", "some", or a pre-article, PRE-ART, and an article. A PRE-ART is similar to "some of", "all of", "many of", "several of", and others. A noun phrase consisting of an article and [illegible] noun is the noun phrase "the turkey". The tree diagram for this noun phrase is



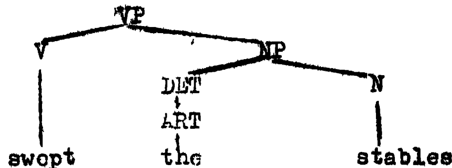
This tree diag[illegible] [illegible] 'the" is an article, that the article is a determiner, that "t[illegible]" [illegible] a noun, and "the turkey" is a noun phrase. The noun [illegible] of the turkeys" has the structure given in the tree diag[illegible]

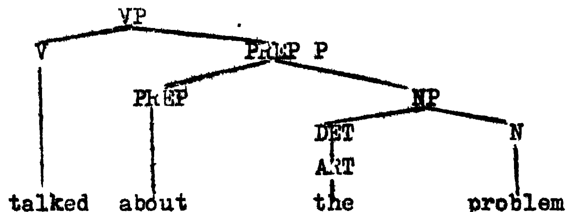


Noun phrases also cont[illegible] phrases like "who is old" as in "the man who is old". Th[illegible] t[illegible] phrase is called a relative clause.

Now let's turn t[illegible] the s[illegible]cond major constituent of the sentence, the verb phrase, VP. In the sentence "the farmer swept the stables," the verb phrase is "sw[illegible]t the stables." The most important constituent of the verb phras[illegible] is the constituent called a VERB, V.

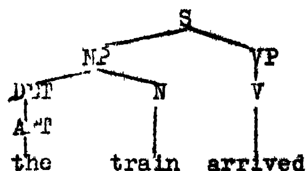
In "swept the stables", the word "swept" is a verb. A verb is to a verb phrase what a noun is to a noun phrase. In the same way that every noun phrase must contain a noun, every verb phrase must contain a verb. Here are tree diagrams for two verb phrases.





As the diagrams show, verb phrases contain other constituents in addition to verbs. In the verb phrase "swept the stables", the constituent following the verb is a noun phrase containing a determiner (which is the article "the"), and a noun ("stables"). A verb phrase may also contain a PREPOSITIONAL PHRASE, abbreviated PREP P. A prepositional phrase, a phrase like "about the problem" which is whown in the second tree, contains a preposition, abbreviated PREP, and a noun phrase. Prepositions are words like "about", "at", "und-der", "beside", "on", and "inside".

It is not necessary for the verb phrase to have any constituents other than a verb. For example, in the sentence "the train arrived", the verb phrase contains only the verb "arrived". Here is the tree diagram for "the train arrived".



One of the major characteristics of sentences in English, and of sentences in all languages, is that they are composed of many smaller units or parts which are called constituents. It is important to be able to identify the constituents of sentences, for, as you shall see in the next lesson, constituents play a very important role in sentences. Constituents supply information about how to understand sentences. Also, you must know something about constituents to know what transformations do. Transformations are processes which move constituents around in sentences or remove constituents altogether.

EXERCISES

1. According to this lesson, how many sentences are there in English ?
2. What are you doing when you study the grammar of a language ?
3. Words in a sentence fall into two main constituents. Copy sentences b, c, and d at the top of page 6, and show the NP constituent by drawing a single line under it, and show the VP by drawing a double line under it. The first sentence is done for you.
   a. The youth who took the golden appels killed the great snake.
   b. An old woman healed him.
   c. Three little ladies dressed in red slept in a velvet-curtained bed.
   d. The little green train trundled into the flower-decked rail-road station.
4. List the features for the following nouns. The first one is done for you.
   a. boy

      +N
      +common
      +concrete
      +animate
      +human

   b. apple
   c. snake
   d. Terre Haute
   e. mansion
   f. misery

g. Sam Houston

5. Write three sentences containing pre-articles.
6. Write two sentences containing relative clauses.
7. Draw tre diagrams for the following sentences :
   a. Samson terrified all of the Philistines.
   b. Several of the musicians wandered through the audience.

Lesson 2

DEEP STRUCTURE, SURFACE STRUCTURE, AND TRANSFORMATIONS

In the first lesson, you learned that sentences have a structure. One of the most important facts about sentences is that they have not just one structure, but two structures. The first structure is called a deep structure. The deep structure is the structure which provides the meaning of a particular sentence. The second structure is called the surface structure. The surface structure is a structure produced, or generated (to use the grammatical term) from the deep structure. Let's see what this means.

Think about this sentence.

The book which you bought interested the ambassador.

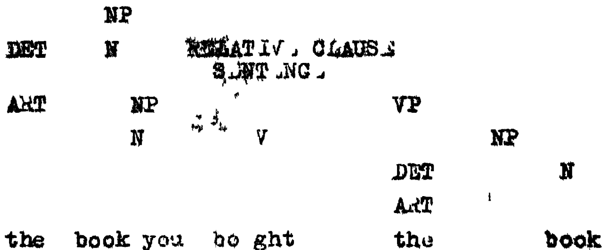
Let's direct all of our attention to the first noun phrase of this sentence which is "the book which you bought". Within this noun phrase, the group of words "which you bought" is called a relative clause. Now, what is the meaning of this relative clause ? In other words, what is the sentence which seems to be represented by this clause ? The sentence underlying the relative clause "which you bought" in the sentence beginning "The book which you bought" is the sentence "You bought the book".

The deep structure of the noun phrase "the book which you bought" contains not the relative clause "which you bought" but the sentence "You bought the book". At the top of page 8, you will find the diagram for the deep structure of the noun phrase "the book which you bought". Notice that the deep structure of the noun phrase "the book which you bought" conveys the information implied in "which you bought", namely, that "you bought the book". The constituent RELATIVE SENTENCE, abbreviated REL S, is actually a sentence embedded inside a NP.

Notice, however, that the string of words which comes from this deep structure is not a sentence of English at all.

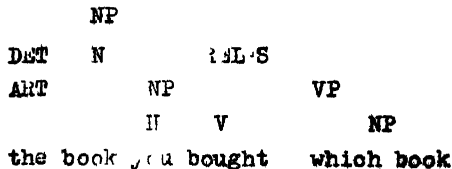
*the book you bought the book interested the ambassador

(Do you remember what the (*) means when it appears before a string ?)



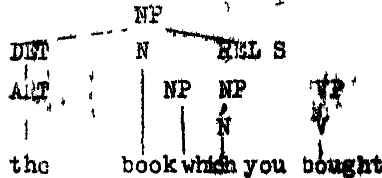
In other words, in order to generate the grammatical sentence "The book which you bought interested the ambassador," the deep structure above must be changed into, or <u>transformed</u> into a surface structure. The surface structure in this case is the surface structure of the NP "the book which you bought".

Deep structures are changed into surface structures by processes called <u>transformations</u>. English contains a great many transformations and you will be studying several of these in the following lessons. For the moment, let's see how transformations transform the deep structure of the NP, given, into the surface structure of the NP "the book which you bought". This change involves a transformation, called the <u>relative clause transformation</u>, which has two parts.



The first part of the relative clause transformation substitutes the word "which" for the determiner, DET, in the relative clause sentence to form a new structure. Look at the diagram on page 8. You should remember that the words "which", "who", "that", and "what" in relative clauses are called <u>relative pronouns</u>. In the second part of the relative clause transformation, the noun phrase containing the relative pronoun "which" is brought to the front of the relative clause sentence and the noun is dropped, thus

producing the following surface structure.



This summarizes how the noun phrase "the book which you bought" is generated from its deep structure by the relative clause transformation.

Some sentences with relative clause sentences embedded in them can be transformed by the relative "BE" deletion transformation. This transforms a string like

the city which is on that hill is Damascus

into

The city on that hill is Damascus.

Now you should be able to apply the relative clause transformation to the string

*the man the man is tall came late

so as to generate

The man who is tall came late.

There is a form of be, "is", in the relative clause. So the relative "BE" deletion transformation may be applied to generate

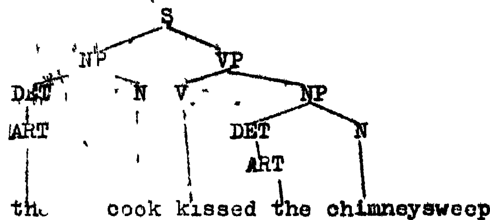
*the man tall came l

Next, an adjective transformation moves the adjective "tall" to in front of the noun.

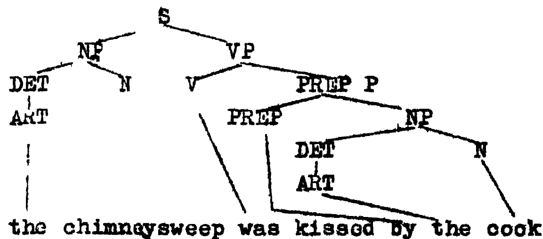
The tall man came late.

All sentences have a deep structure and surface structure. In some cases, the two structures are very much the same. For example , for a sentence "The cook kissed the chimneysweep" the deep structure is virtually identical to the surface structure. But now think about

the passive version of this sentence, namely, the sentence "The chimneysweep was kissed by the cook." The surface structure of this sentence is very different from its deep structure. The sentence "The chimneysweep was kissed by the cook" has this deep structure.

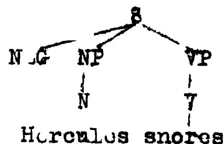


This deep structure is transformed by the passive transformation into the surface structure of the sentence "The chimney-sweep was kissed by the cook", as follows :



Notice what the passive transformation does. It interchanges the first noun phrase of the sentence with the last noun phrase. Furthermore, it changes the verb "kissed" and brings the preposition "by" into the surface structure.

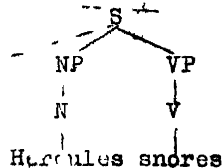
The deep structure of sentences may contain a negative constituent, NEG, as in the following deep structure diagram.



Whenever the deep structure contains the negative constituent, it must be transformed by the negative transformation. In this case, the surface structure of the sentence is "Hercules does not snore".

The surface structure of "Hercules does not snore" can be further transformed by the contraction transformation, which transforms "not" into "n't", to produce the surface structure for the sentence "Hercules doesn't snore."

The deep structure may also contain the question constituent, Q, as in the following tree diagram.



When the deep structure contains the question constituent Q, it must be transformed by the yes-no question transformation. The yes-no question transformation is (transforms the above deep structure into the surface structure of the sentence "Does ∠ snore?" (Hercules
Yes - no question transformation) so called because it generates question sentences to which the answer is either "yes" or "no".

The same constituent, for instance NP, can play several different roles in deep structures and surface structures of sentences. For example, the NP right beneath the S constituent in the deep structure is called the deep subject of the sentence. In the deep structure for the sentence "The cook kissed the chimneysweep" the noun phrase "the cook" is the deep subject. The NP immediately below the V P in this same deep structure is called the deep object of the verb phrase. Thus, "the chimneysweep" is the deep object of this structure. Look back at the tree diagram for the deep structure of this sentence to make sure you can identify the deep subject and deep object.

The deep subject of a sentence is very often different from the surface subject of the sentence. For example, suppose the passive transformation is applied to generate the sentence. "The chimneysweep was kissed by the cook". The NP containing "The chimneysweep" is still the deep object of the verb phrase because this NP was the object of the verb phrase in the deep structure. But it is now the surface subject of the sentence. Why? Because in the surface structure, this NP is the one immediately below, or, to use the technical term, immediately dominated by, the S constituent. The deep subject of this sentence, the one which tells us who did the kissing is still the NP containing "the cook".

Notice that if the deep subject is not moved from its position, as in simple sentences such as "Hercules snores", the deep subject and the surface subject are the same NP.

EXERCISES

1. What is a deep structure ?
2. Draw deep structure tree diagrams for

a. The inn which you saw welcomed the party.
b. I enjoyed several of the books which I bought.

3. Apply the relative clause transformation to
a. the dog Augustus liked the dog bit him
b. the dog the dog was hungry bit Augustus

4. Apply the passive transformation to sentence a in question 2.

5. Apply the negative transformation to
a. (Negative) Joseph was wearing the coat of many colors
b. (Negative) Jacob wrestled with an angel

6. Apply the contraction transformation to the strings you wrote for 5.

7. Apply the yes-no question transformation to
a. (Question) Joseph was wearing the coat of many colors.
b. (Question) Jacob wrestled with an angel

8. Why do we use "who" after some nouns but "which" after others?

Lesson 3.

NOUN PHRASE COMPLEMENTS

Sentences can be embedded within other sentences. Look.

The bird ate the dog.

The whole sentence can be embedded into a larger one :

We now know that the bird ate the dog.

Many of the sentences we speak, write, read, or hear contain other sentences embedded in them. It is this process of embedding that accounts for the fact that every human language consists of an infinite number of sentences. You should understand why by the end of this lesson.

We can very often embed sentences in the deep structure of other sentences. Look at this sentence :

The fact that Huck survived surprised the community.

What do you know about the noun phrase that acts as the deep subject of this sentence ? To find out which NP it is, you can apply the passive transformation to the deep structure of the sentence. This transformation generates

The community was surprised by the fact that Huck survived.

Since the passive transformation has moved "the fact that Huck survived", this group of words must be a noun phrase.

But let's check this result with the result of another test: <u>the cleft transformation.</u> The cleft transformation puts <u>what</u> at the beginning of the sentence, and one of the <u>be</u> words (is, are, was, were) in front of a noun phrase, provided that the noun phrase contains no human noun as the chief constituent. So in carrying out the cleft transformation, we shall put our supposed noun phrase, "the fact that Huck survived," after <u>was</u>.

The fact that Huck survived surprised the community <u>cleft</u> what surprised the community was the fact that Huck survived

Since the sentence generated by this transformation is a grammatical sentence we can now be certain that <u>the fact that Huck survived</u> is a noun phrase.

What can we say about the structure of this noun phrase ? Let's take out the last two words of this noun phrase and look at them.

Huck survived

You can recognize this string of words to be a grammatical sentence of English.

Now you can see that noun phrases may contain not only determiners and nouns but also two types of sentences. One type, that we discussed earlier, becomes a relative clause; the other type includes the examples just discussed. This type of sentence functions as a NOUN PHRASE COMPLEMENT. Such sentences are represented in a deep structure with the constituent S (the abbreviation for sentence) immediately dominated by a noun phrase:



The word complement is the name for a particular role (or function) played by the constituent S, just as subject is the name for a particular role (or function) played by the constituent NP. Both words tell us what particular constituents do in a tree. Deep subject is the name given to the noun phrase which is dominated by S in the deep structure

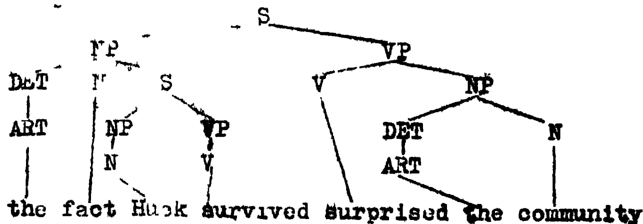


while noun phrase complement is the name given to the sentence dominated by NP in the deep structure. Look again at the top diagram.

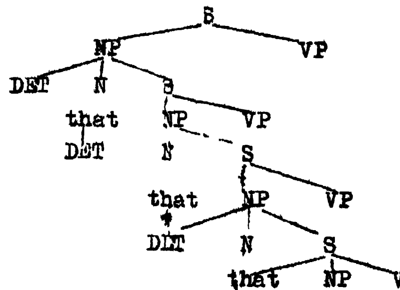
Now you are ready to look at the deep structure of the sentence at the top of page 15. You can see from the tree that the main sentence has another sentence ("Huck survived") embeded in it. Since this embedded sentence is immediately dominated by a noun phrase, it is a noun phrase complement. The word that, which introduces the complement sentence, is missing from the tree, isn't it ? That is called a complementizer; it is one of the words that tells us that an embedded sentence is a noun phrase complement. (Be careful not to confuse the complementizer that with the relative pronoun that, which is inserted inside a noun phrase in a relative

clause). The complementizer that is placed in the deep structure by a transformation called the complementizer transformation. It is placed just before the first noun phrase of the embedded sentence. (Note: A structure to which any transformation has been applied is no longer a deep structure. It is then either a surface structure or an intermediate structure. A surface structure is one to which no more transformations can be applied. An intermediate structure is one to which further transformations must be applied).

The fact that Huck survived surprised the community.



In theory we could embed yet another sentence along with its complementizer in this noun phrase complement, and then yet another one in that, and so forth, rather like this :



We'd have grammatical sentences as complicated as one beginning :

Huck was surprised by the fact that Jim misunderstood the fact that the French liked the idea that was the fact that the English were aware of the suggestion that started the idea that ....

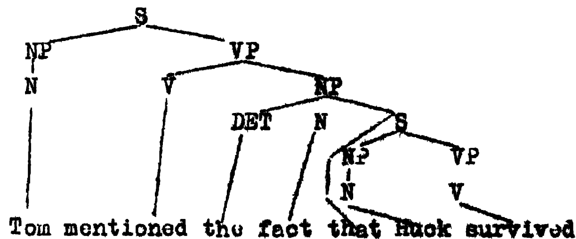
The reason we don't use sentences like these is not that they are ungrammatical but simply that we would forget the earlier parts

of the sentence and their functions before we got to the end of such a giant sentence. The process of embedding makes these sentences possible, however. This is one of the reasons why the English language contains an infinite number of sentences of any length.

So far you have looked only at subject noun phrases containing noun phrase complements. But remember that any noun phrase anywhere in the deep structure may contain a noun phrase complement. For example, in the following sentence the noun phrase containing the embedded sentence is the deep object of the verb phrase.

Tom mentioned the fact that Huck survived

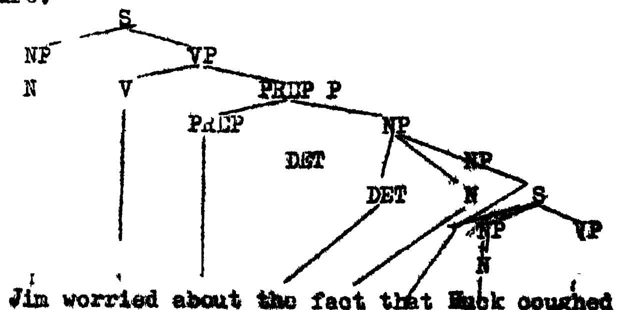
The noun phrase "the fact that Huck survived " is here the object of the verb phrase. Look at the noun phrase complement in the tree below :



Finally, here is a sentence with a noun phrase complement inside a prepositional phrase,

Jim worried about the fact that Huck coughed.

Look at the tree for this. Notice that the complementizer transformation has already been applied to bring the complementizer "that" into the deep structure.



Noun phrase complements play a very important role in our language. Not all of them have the complementizer "that" in front of their first noun phrase. The complementizer transformation may insert other complementizers as well as "that". We'all discuss this topic in the next lesson.

EXERCISES

1. Show that the words underlined are noun phrases by applying the passive transformation.
   a. The news that Othello had arrived pleased Desdemona.
   b. Edmund discovered what you want.
   c. The tourist slept in a canopy bed.

2. Apply the cleft transformation to
   a. The news that Othello had arrived pleased Desdemona.
   b. The tourist slept in a canopy bed.
   c. John Bunyan wrote The Pilgrim's Progress.
   d. This dismal n[illegible] worries me.

3. Apply the yes-no question transformation to
   a. (Question) Jack was hunting his enemy, Ralph
   b. (Question) the Lord of the Flies is called Beelzebub
   c. (Question) the British writer William Golding was writing Lord of the Flies then
   d. (Question) Johann Wyss wrote The Swiss Family Robinson

4. Apply the negative transformation to
   a. (Negative) Jonathan was the son of Saul
   b. (Negative) David was playing the harp for the king
   c. (Negative) in the morning the vase host was waiting for a leader
   d. (Negative) the w[illegible]n awoke Samuel

5. Now apply the contraction transformation to each of the sentences generated [illegible] tion 4.

6. Apply the relative clause transformation to
   a. the general the general enjoyed caviar watched Hamlet trap the king
   b. the wrestler Rosalind feared the wrestler approached Orlando

c. the son <u>the son was young</u> was left penniless

7. Apply the relative "BE" deletion transformation and the adjective transformation to the last sentence you wrote for Question 6.

8. What constituent dominates what in the following items ?

a. the deep subject

b. the deep object

c. the noun phrase complement

9. How and where does the complementizer <u>that</u> get into a sentence ?

10. Endlessly long sentences might be grammatical but they are not used. Why ?

11. The noun phrase complement is described as occuring in three main positions in the deep structure. What are they ?

Lesson 4

COMPLEMENTIZERS

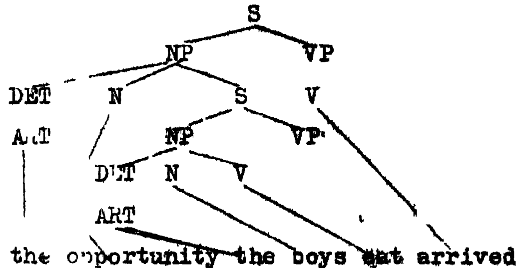
The complementizer *that*, which is introduced into an embedded sentence by the complementizer transformation, is only one of several complementizers. Suppose that we had the deep structure of a sentence like

The boys eat.

which we want to embed in the subject NP of a string like

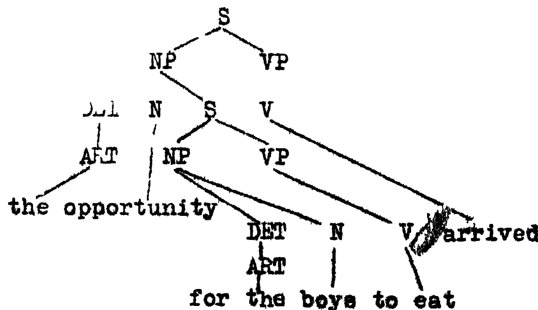
the opportunity arrived

We could show it in this way :



Now let's look at the actual surface structure for this deep structure :

The opportunity for the boys to eat arrived.
The surface structure tree is quite different from the deep structure tree, as you can see in the tree on page 20.



Instead of the complementizer __that__, the complementizer transformation has introduced two other words __for...to__. The transformation has inserted __for__ before the first noun phrase of the embedded sentence, and __to__ after this noun phrase, "the boys" and before the verb "eat". The __for...to__ complementizer is called the __infinitive complementizer.__ This __infinitive__ complementizer, __for...to__, has some interesting properties. Look the complementizer here :

Cassius pre fred for Brutus to help.

This seems quite nor l The __for__ is in front of the noun phrase __Brutus__ while __to__ com after it and before the verb __help__. The sentence which is embedded as a noun phrase complement is

Brutus hel .

But suppose that th embedded sentence had originally been

Cassius elps.

If we applied the compl mentizer transformation we would generate a string like this.

*Cassius pr fer i ior Cassius to help

This would not b a gra tical sentence unless the second __Cassius__ referred to a diffe with the same name, When both noun __phrases__ refer to th , we must remove the second noun phrase __Cassius__, and l of the complementizer "for" which goes just before is that the string

*Cassius pr f ssius to help

is transformed into rface structure

Cassius prefer elp.

Notice that we stil erstand the surface structure as if it were still like the structure

*Cassius pr fe Cassius to help

Even without the second ssius a speaker of English will understand that it's Cassius wh lo the helping, not Brutus nor anyone else.

Here, then, is a good example of how the deep structure, not the surface structure, tells us the meaning of a sentence.

Sometimes the subject noun phrase of the embedded sentence can be deleted even if it is not identical to another noun phrase in the sentence. This is often the case when the subject noun phrase is "someone". The sentence

it is easy for someone to see him.

has the same meaning and the same deep structure as

it is easy to see him.

The <u>for</u> part of the complementizer and the indefinite noun phrase "<u>someone</u>" have been deleted.

The last complementizer we shall discuss is composed not of words but of word endings. The endings are (s), and (') for nouns, and (-ing) for verbs. We usually use ('s) for singular nouns, (') for plural nouns, and sometimes just (') for some singular nouns ending in s. Look at the following sentences :

1. That Huck is alive surprises the community.
2. Huck's being alive surprises the community.

In the first sentence the complementizer is "that". In the second, the complementizer is ...-ing. The complementizer transformation adds 's to the noun phrase "Huck", generating "Huck's", and -ing to the verb "be", generating "being". This complementizer is called the <u>gerundive complementizer</u>.

The gerundive complementizer is like the infinitive for... to complementizer in one important way. The first part of each complementizer must be deleted if the noun phrase is deleted. For example, the deep structure of

*Maria disliked Maria's staying out late

becomes the surface structure

Maria disliked staying out late.

The second noun phrase, which was identical with the first, has been deleted. So has the 's part of the complementizer.

Here are the three complementizers in noun phrase complement sentences :

1. THAT complementizer : The fact that Jane was there disturbed Rochester.
2. INFINITIVE complementizer : The opportunities for Romeo and Juliet to meet were rare.
3. GERUNDIVE complementizer : The President's coming here surprised the F.B.I.

You have seen that both for and 's can be deleted if the noun phrase they go with is deleted. In some cases for and 's and that can be deleted without your having to delete any other constituents. So we can have not only

Falstaff thought that Henry was a playboy.

but also

Falstaff thought Henry was a playboy.

with "that" deleted. We can have not only

The king disliked his son's fooling around.

but also

The king disliked the son fooling around.

Finally we can not only have

I would like for you to eat poisoned apples,

but, more often,

I would like you to eat poisoned apples.

These three complementizers : the THAT complementizer, and the infinitive "FOR...TO" complementizer, and the gerundive "s... -ING" complementizer signal the presence of noun phrase complements. Once sentences are embedded as noun phrase complements, they can be moved around in the sentence by special transformation. But we'll leave this story for another lesson.

[illegible] C I S E S

1. Apply the passiv[illegible] transformation to
   a. What th[illegible] l[illegible]wy[illegible] said amazed Mr. Pickwick
   b. th[illegible] fact that Collins was proposing holy matrimony to her horrifi[illegible] [illegible]
   c. the b[illegible]aut[illegible] [illegible]rriage of the Marquis ran over a small child

2. Apply th[illegible] c[illegible] [illegible]nsformation to sentence b of Question 1.

3. Apply th[illegible] [illegible] [illegible]stion transformation to
   a. (Questi[illegible]) [illegible] [illegible]rank was riding her bicycle
   b. (Question) [illegible] President visited Wyoming

4. Apply the n[illegible]gativ[illegible] transformation to
   a. (Negativ[illegible]) [illegible]iza Doolittle was learning to speak
   b. (Negativ[illegible]) [illegible]iza Doolittle loves chocolates

5. Apply (1) th[illegible] r[illegible]lativ[illegible] clause transformation,
   (2) r[illegible]lative "B[illegible]" deletion (if possible) and
   (3) th[illegible] ad[illegible]ective transformation (if possible)

   to the followi[illegible] strings. The first is done for you.
   a. *the boy th[illegible] [illegible]oy was fat drove the coach
      ANSW[illegible] : 1. [illegible] Cl The boy who was fat drove the coach
      2. [illegible] "B[illegible]" Del. *the boy fat drove the coach
      3. [illegible] th[illegible] fat boy drove the coach
   b. *the girl t[illegible] [illegible] was little was named Beth
   c. *he could [illegible] of the adjective he wanted the adjective

6. If you did 5c [illegible], one word could now be deleted. Which word is it ?

7. What are the [illegible]mentiqers listed in this lesson ?

8. Give an exa[illegible] [illegible] the deep structure, not the surface structure, [illegible] [illegible]aning of a sentence.

9. Give two ca[illegible] [illegible] it is usually possible to delete a noun phras[illegible]

10. Explai[illegible] wha[illegible] [illegible]hrase complement is.

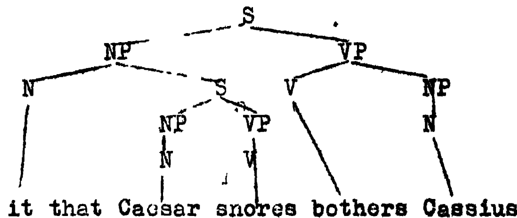
Lesson 5

WHAT EXACTLY IS A TRANSFORMATION ?

Look at these two sentences.

1. It bothers Cassius that Caesar snores.
2. That Caesar snores bothers Cassius.

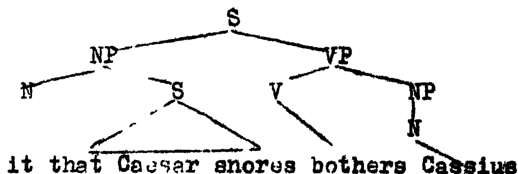
These sentences have the same meaning and the same deep structures. We see that the complementizer transformation has already been applied to the deep structure to place "that " at the front of the embedded sentence. Look at the deep structure tree after the complementizer transformation.



In the future, whenever we don't need to talk about the detailed structure of a sentence, especially one embedded as a noun phrase complement, we will use a triangle as an abbreviation :



So now our abbreviated tree looks like this



The embedded sentence <u>that Caesar snores</u> is a noun phrase complement of the kind we studied in Lesson 3. But this tree diagram may seem strange since there is no grammatical sentence.

*it that Caesar snores bothers Cassius.

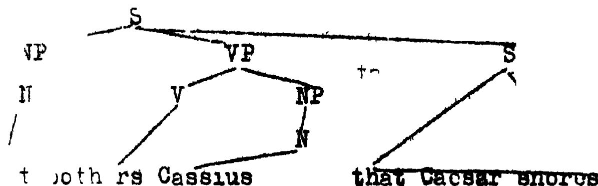
Remember. We are taking here not about surface structures but about deep structures. Deep structures, as you have seen many times before, often contain constituents that must be changed by transformations if grammatical surface structures are to be generated.

What must have happened to the deep structure for it to become the following surface structure ?

it bothers Cassius <u>that Caesar snores</u>.

The embedded sentence <u>that Caesar snores</u> has been moved to the end of the main sentence. An important transformation which moves noun phrase complements in this way is called the <u>extraposition transformation</u>.

Let's look at the surface structure tree for this sentence and we can see exactly how the deep structure has been transformed by the extraposition transformation.



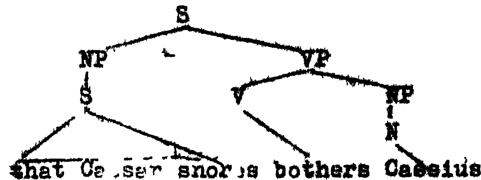
We do not have to apply the extraposition transformation. It is optional. If we don't apply it, we still have the ungrammatical string

*it that Caesar snores bothers Cassius

When "it" appears before a noun phrase complement, the "it" must be deleted . This transformation generates

That Caesar snores bothers Cassius.

The transformation which generates the surface structure of the sentence above is called the "IT" <u>deletion transformation</u>. The surface structure tree diagram looks like this :



Now that the "it" has been deleted, the subject noun phrase of

That Caesar snores annoys Cassius.

contains only the embedded sentence

*that Caesar snores

The extraposition transformation and the "IT" deletion transformation depend upon each other. If the extraposition is applied to generate

It annoys Cassius that Caesar snores.

then the "IT" deletion transformation cannot be applied. "It" is no longer right in front of the noun phrase complement "that Caesar snores." However, if we do not apply the extraposition transformation, then we must apply the "IT" deletion transformation because "it" is right in front of the noun phrase complement :

*it that Caesar snores annoys Cassius

so that the transformation generates

That Caesar snores annoys Cassius.

Transformational rules can be shown as mathematical formulas. When this is done, transformations have a left side and a right side. What we show on the left side is always an abbreviation for a phrase structure tree diagram. Now, for the extraposition transformation to apply, we need to know only that there is an "it" in the deep structure which is followed by an embedded sentence. The left side of the rule could look like this :

it s

But this is not entirely accurate, since there are likely to

be other constituents in this deep structure. Before "it" we could have phrases such as "on Tuesdays" as in this sentence.

On Tuesdays it bothers Bill that John is late.

Instead of on Tuesdays we could have had usually or when my uncle is waiting. You can probably think of many other possibilities. Since it makes little difference here which we choose, we might as well show the possibilities with some kind of symbol which stands for all possibilities, say the Greek letter alpha (a).

a it s

But this isn't accurate enough yet the extraposition transformation requires us to move the embedded s from the position just after "it" to the end of the main sentence. There may be other constituents after "it s"

We may use another Greek letter to stand for whatever follows "it s." Thus the left-hand side of our transformational rule looks like this :

a it s

This says that the extraposition transformation is applied to a deep phrase structure [illegible] at least "it" and an embedded sentence. It also says that [illegible] may or may not be constituents before "it" and that there [illegible] b constituents after s. Now the formula for the [illegible] transformation is

a it s = it s([illegible])

On the left [illegible] the original deep structure. On the right side is shown what the extraposition transformation does to the deep structure. It [illegible] the embedded sentence past the other constituents, whatever they may be, to the end of the sentence. (This is precisely what happens as the tree at the top of page 25 is converted to the tree at the bottom of page 25). On the far right of the formula we see that the transformation is optional.

Could you understand the same kind of mathematical formula for the "IT" deletion transformation ?

a it s = a s (obligatory)

The left Side of this rule says :

"Look for a deep structure in which any number of constituents are followed by an 'it' and then an embedded sentence and then any number of other constituents. If you find a pattern like this, you must change it to the pattern of the right side, where the 'it' is deleted. The word obligatory on the far right shows that this transformation is compulsory if the structure fits the pattern of the left side.

But such formulas are merely abbreviations of transformations. Sometimes accurate abbreviations are useful, but is far more important to understand what the transformations do and to be able to show this by giving examples.

E X E R C I S E S

1. Apply the passive transformation to

   a. someone shot Abraham Lincoln

   b. Sir Francis Drake, the English commander, defeated the great Spanish Armada

2. Apply the object deletion transformation to

   a. Professor ... s enjoyed studying languages
   b. The gr... ... bulldozer destroyed Ann Hathaway's pretty c...

3. Apply where possible

   (1) the relative ... transformation
   (2) relative ... deletion
   (3) adjective ...

   a. *the house h... t d the house was Wuthering Heights
   b. *the house th... ... is bleak stood on the moors
   c. *Nelly look... ... the girl the girl is sick

4. Write thr... ... using a different complementizer in each.

5. Apply the extr... ...tion transformation to

   *it that Brutus ... it to the Capitol frightened Portia

6. Apply the "IT" ... tion transformation to
   *it that Brutus ... nt to the Capitol frightened Portia

7. When must the "IT" deletion transformation be applied ?

8. Draw a deep structure tree diagram for the surface structure
   It is easy for Robinson Crusoe to please someone.

9. Explain the difference between the deep structure and the surface structure.

Lesson 6.

SOME MAJOR TRANSFORMATIONS IN ENGLISH

It is not necessary for you to know how to state transformations formally. (By formally, we mean as a set of mathematical symbols.) It is very important, however, for you to know what the major transformation of English are, and how they transform deep structures. You should be able to look at a sentence and tell what transformations have been applied to generate the sentence from its deep structure. In this lesson we shall review and discuss some transformations which affect deep structures containing sentences embedded as noun phrase complements. Then you will have an opportunity to look at several different sentences and try to determine whether or not any of these transformation have been applied.

The first transformation you should remember clearly. You saw it stated formally like this :

a it s = a it s (Optional)

It is, of course, the extraposition transformation which shifts the complement sentence to the end of the main sentence. For example, the deep structure

*it that Freud was a great psychologist is true

can be transformed into the surface structure.

It is true that Freud was a great psychologist.

The second transformation you should also remember clearly. You saw it formally stated in this way :

a it s - s

This rule is the "IT" deletion transformation. If we have not applied the extraposition transformation, then the it is still followed by the embedded sentence. In that case, we delete the it. For example, the same deep structure

*it that Freud was a great psychologist is true

can also be transformed into the surface structure

That Freud was a great psychologist is true.

The third rule is called the <u>complementizer deletion transformation.</u> You can see the effect of this transformation if you compare these two sentences.

1. The boy asked for his father to come.
2. The boy asked his father to come.

The complementizer deletion transformation deletes the <u>for</u> part of the <u>for</u>... <u>to</u> complementizer.

Look now at these two sentences

3. The lawyer dislikes John's owning a house.
4. The lawyer dislikes John owning a house.

Here the complementizer deletion transformation deletes the 's part of the 's...ing or <u>gerundive</u> complementizer.

Finally, compare these two sentences

5. We saw that the child was sick.
6. We saw the child was sick.

Here, the complementizer <u>that</u> has been deleted by the complementizer deletion transformation.

In the examples above, the noun phrase complements are

for his father to come
John's owning a house
that the child was sick

None of these noun phrase complements appear in subject noun phrases of the sentences in which they occur. But what happens if we try to apply the complementizer deletion transformation to noun phrase complements which are subjects ? Look.

<u>for his father to have come early</u> was surprising

Comp Del *his father to have come early was surprising

John's owning a house annoyed the lawyer

Comp Del *John owning a house annoyed the lawyer

that the child was sick distressed us

Comp Del *the child was sick distressed us

In each of these examples the complementizer deletion transformation fails to generate a grammatical sentence of English. We can conclude, then, that the complementizer deletion transformation cannot normally be applied to sentences embedded as subject noun phrases.

But in some areas of this country and in Great Britain some people do speak a dialect of English in which the complementizer deletion transformation can be applied to a subject noun phrase complement if the complementizer is the gerundive ('s...-ing). For people who speak this dialect, both of these sentences are grammatical.

1. His son's staying up late annoyed me.
2. His son staying up late annoyed me.

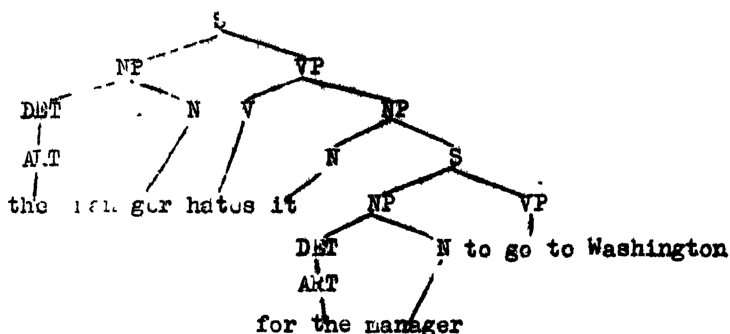
This dialect of English makes optional use of complementizer deletion for the gerundive complementizer in the subject position.

So far we have discussed three transformations affecting the sentence embedded as noun phrase complement :

Transformation 1 : Extraposition
Transformation 2 : "IT" Deletion
Transformation 3 : Complementizer Deletion

The next transformation is called Identical NP Deletion. It is applied when the subject noun phrase of the embedded sentence is identical to a noun phrase in the main sentence.

In the following deep structure, the complementizer transformation has already been applied.



In this deep structure, the subject noun phrase of the embe-dded sentence, "the manager" is the same as the subject noun phrase of the main sentence. Therefore, the identical NP deletion transformation deletes the subject NP of the embedded sentence, together with the for of the for... to or infinitive complementizer.

*the manager hates it to go to Washington

Since "it" is in the front of an embedded sentence, the IT deletion transformation is applied to generate the surface structure.

The manager hates to go to Washington.

Finally, there is one more very important transformation which dele-tes indefinite noun phrases like "someone" and "something." When the passive transformation is applied to the string

someone attacked the fort last year

it generates

The fort was attacked by someone last year.

Can you see that it is possible to delete part of this sentence without changing the meaning ? Look at this.

The fort was attacked last year.

What has been deleted is the indefinite noun phrase "someone" together with "by". What transformations are applied to move from string 1 to surface structure 3 ?

1. Someone argued the case before the Supreme Court
2. the case was argued by someone before the Supreme Court
3. The case was argued before the Supreme Court.

String 2 is the result of a passive transformation applied to string 1. The surface structure 3 is the result of the transformation called the <u>Indefinite NP Deletion transformation</u>. You can see that the meaning of all three sentences is the same. Transformations, if properly applied do not change meaning. Why ? Because meaning comes from deep structure only.

The six transformations discusses in this lesson are among the most important in English. Here they are : 1.Identical NP Deletion; 2.Passive; 3.Extraposition; 4.Complementizer Deletion; 5."IT" Deletion; 6.Indefinite NP Deletion.

<u>E X E R C I S E S</u>

1. Apply the [illegible] transformation in as many ways as you can.
   a. a monstrous [illegible] dominated the beautiful mountain scene
   b. the hug [illegible] a cargo of peacocks and ivory
2. Apply the p[illegible] transformation to the two sentences in 1.
3. Apply wh[illegible]
   (1) th[illegible] clause transformation
   (2) relati[illegible] "[illegible]" [illegible]tion
   (3) adjective [illegible] formation
   a. *th[illegible] little [illegible] [illegible]s adopted the little girl was called Eppi
   b. *the squir[illegible] <u>the squire is handsome</u> was weak-willed
   c. *Goldilocks [illegible] the bears <u>the bears are in the zoo</u>

Apply the extraposition transformation to
   *it that Goldilocks loved porridge is obvious

Apply the "IT" deletion transformation to
*it that Caesar h[illegible] his baldness with a laurel wreath is peculiar

6. Draw the deep structure tree diagram for the string given in 4.

7. Show the features of the following nouns. The first one is done for you

   a. cat   Cat

   +N

   +common

   +concrete

   +animate

   -human

   b. Goldilocks

   c. cheerfulness

   d. pizza

   e. Yell owston P rk

8. What is th comp nizer deletion transformation ?

9. When can we nor lly not use this transformation for noun phrase compl to

10. Draw the tree for the sentence
    The poet ite sonnets.
    Explain what t for tions are necessary if you are to generate a surf cture for it.

11. What is the indef ite noun phrase deletion transformation ?

Lesson 7

VERB PHRASE COMPLEMENTS

So far you have studied noun phrase complements, sentences embedded within noun phrases in the deep structure. In some cases, it is quite easy to tell whether a complement sentence is or is not a noun phrase complement. For instance, look at this sentence.

Everybody knows that Caesar is vain.

You know that the embedded sentence "that Caesar is vain" is a noun phrase complement for two reasons. First, you can apply the passive transformation to it to generate

That Caesar is vain is known by everybody.

Since the passive transformation interchanges noun phrases you know that the sentence "that Caesar is vain" is a noun phrase complement. Second, you can apply the cleft transformation to generate

What everybody knows is that Caesar is vain.

This is extra confirmation that "that Caesar is vain" is a noun phrase complement. (If you don't recall the discussion on the passive and cleft transformations, now is the time to go back and review.)

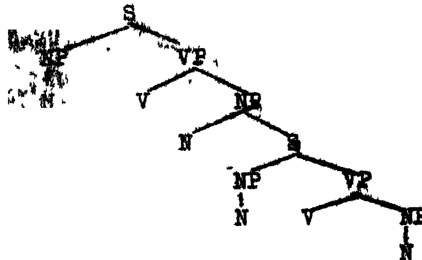
There are some embedded sentences, however, which are not noun phrase complements. They are sentences which are embedded not into a noun phrase, but into some other constituent.

Look at this sentence.

Viola prefers to drink milk.

What is "to drink milk" in this sentence? It is what remains of a noun phrase complement sentence with a for ...to (or infinitive) complementizer. Originally, the sentence had the deep structure diagramed on the next page. Notice that the complementizer transformation has already inserted the infinitive complementizer for...to.

*Viola prefers it for Viola to drink milk



Viola prefers it for Viola to drink milk

The identical NP transformation deletes "for Viola".

*Viola prefers it to drink milk

and the "IT" deletion transformation generates

Viola prefers to drink milk

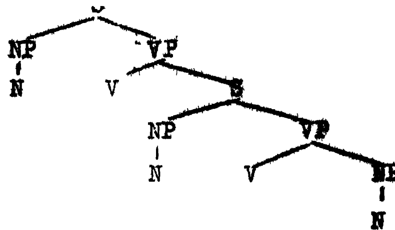
Now look at this sentence.

Viola tends to drink milk.

In this sentence the embedded sentence "to drink milk" is identical to the embedded sentence in "Viola prefers to drink milk." But there is one important difference. The embedded sentence in "Viola tends to drink milk" is not inside a noun phrase. If we try the cleft we get

*what Viola tends is to drink milk

The string is ungrammatical. So, the embedded sentence is not a noun phrase complement at all. You understand from the sentence that Viola is tending to allow herself to drink milk. In other words, in the deep structure, "Viola" is also the subject of the embedded sentence containing "drink milk." Look at the deep structure tree diagram after the complementizer transformation has inserted the infinitive complementizer, for...to.



Viola t for Viola to drink milk

*Viola tends f ola to drink milk

The whole embedd sentence is immediately dominated **not** by NP, as in the previous tree gram, but b VP, the verb phrase. This embedded sentence, then, is a verb phrase complement since it is embedded in a verb phrase. We need to apply one more transformation, the identical NP transformation, to

*Viola tends for viola to drink milk

in order to generate the surface structure

Viola tends to drink milk.

Verb phrase comple ments have some peculiar properties which you should know about. In the first place, in every verb phrase complement, the subject noun phrase of the complement sentence must be identical to a noun phrase in the main sentence.

Look back at the ep structure for "Viola tends to drink milk." Here, the subject noun phrase of the complement sentence is identical to the subject noun phrase of the main sentence. Both are "Viola." But suppose the subject of the complement sentence had been a noun phrase li "the cat" rather than "Viola". Then this deep structure would have resulted in an ungrammatical surface structure. For example, the following sentences are ungrammatical.

*Viola tends for the cat to drink milk

*Viola tends the at to drink milk

Remember, the subject noun phrase of a verb phrase complement must be identical to a noun phrase in the main sentence. Noun phrase

complements are not usually like this. In these the subject of the embedded sentence may be identical to a noun phrase in the main sentence, as it is in this sentence.

I want to drink milk.

or it may be different from the noun phrase in the main sentence, as in

I want the cat to drink milk

which was in the deep structure

*I want it for the cat to drink milk

until the complementizer deletion and IT deletion transformations were applied.

Finally, unlike noun phrase complements, verb phrase complements have only one complementizer, the infinitive complementizer, "for-to".

Both of the main constituents of a sentence can have a complement. Sentences can be embedded into the noun phrase as noun phrase complement and into the verb phrase complements. But the two complements have many quite different properties, just as noun phrases and verb phrases have different properties. In the next lesson we will look at some very important properties of the verb phrase.

EXERCISES

1. Apply the negative transformation, then the passive transformation, and finally the cleft transformation to each of the following strings. Be sure to show each step as you make the applications.

   a. Alice had eaten all marmalade
   b. the Cheshire cat swallowed an impertinent fieldmouse

2. Draw the deep structure tree diagram for the sentence
   Hillary endeavored to reach the peak.

3. What are the main differences between noun phrase complements and verb phrase complements ?

Lesson 8

VERB PHRASES

In earlier lessons, you have learned that the basic constituent of a verb phrase is a verb. In the sentence

The little mouse adores the rodent-eating cat.

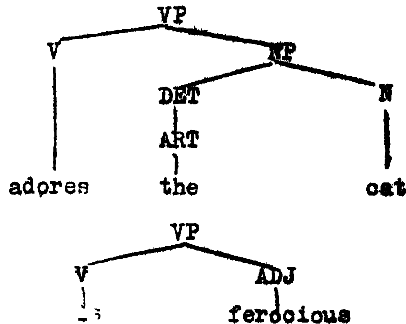
the main constituent of the verb phrase "adores the rodent-eating cat" is the verb "adores".

What is the verb phrase in the deep structure of the following sentence ?

That creature ferocious.

The verb phrase is "is ferocious." The word "is" looks like a verb and "ferocious" an adjective.

Compare the verb phrases "adores the cat" and "is ferocious."



You have learned that verbs and adjectives are different kinds of constituents, that each is different from the other as both are different from nouns. The purpose of this lession is to show that our first conclusion on this point is wrong and must be reconsidered.

What is wrong with the conclusion that verbs and adjectives are different kinds of constituents ? We must have a reason for making any statement; and the fact is, there are better reasons for saying verbs and adjectives <u>are the same kind of constituent</u> than for saying they are different. For example, verbs such as "resemble" and "know" more or less describe the <u>state</u> something is in rather

than some event or action. Verbs like these are therefore called nonaction verbs.

Notice that there are ways in which nonaction verbs cannot normally be used. For example, we cannot normally use nonaction verbs in command or imperative sentences. The following commands sound very peculiar.

*Resemble that

*Know French !

Nonaction verbs cannot ordinarily be used in the so-called progressive form of sentences. A progressive form means a form of "be" before a verb and " " following the verb. Notice the strangeness of these sentences.

*he is resembling that man

*he is knowing French

If a verb is a nonaction verb it cannot ordinarily be the verb in a complement sentence when the verb in the main sentence is one like "told." These strings sound strange to us.

*she told the boy to resemble his father

*she told the boy to know French

So, you see that English contains nonaction verbs which cannot be used in certain ways in sentences.

But there is another important fact to consider. Not only are there nonaction verbs in English; there are nonaction adjectives as well. Nonaction adjectives are adjectives like "tall" and "dizzy". How do we know that these adjectives are nonaction adjectives ? We can tell this from the fact that they cannot be used in certainways in sentences. And where these adjectives cannot be used, neither can the nonaction verbs.

First, these adjectives cannot normally appear in imperative sentences without sounding very peculiar.

*be tall !

*be dizzy !

Second, these adjectives cannot normally appear in progressive sentences.

*he is being tall

*he is being dizzy

Third, they sound very strange when they appear in a verb phrase of an embedded sentence when the verb in the main sentence is a verb like "told".

*she told the boy to be tall

*she told the boy to be dizzy

There are, therefore, both nonaction verbs and nonaction adjectives. In fact, verbs and adjectives have so many properties in common that we must come to the new conclusion that verbs and adjectives are not really different kinds of constituents at all, at least not in the deep structure. <u>In the deep structure of English sentences, verbs and adjectives are the same kind of constituent.</u> Both verbs and adjectives are verbals, abbreviated VB.

If verbs and adjectives are verbals, then how do you describe the difference between the two ? You describe the difference in the same way that you describe the difference between a common noun and a proper noun, by means of features. A common noun has the feature +common . A proper noun has the feature -common . In the same way, a verb is a verbal ( ) which has the feature +verb . An adjective is a VB which has the feature -verb . For example, your lexicon should contain an entry for the verb "resemble" like this

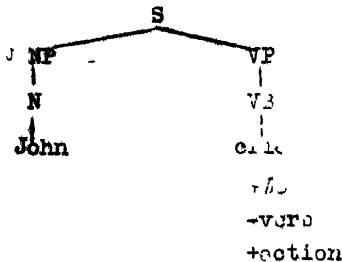
resemble
+VB
+Verb
-action

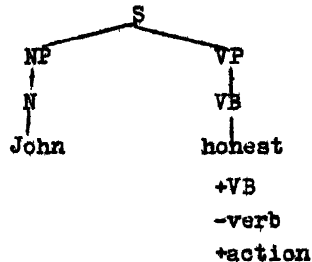
and for the adjective "tall," your lexicon would contain

tall
+VB
-verb
-action

Now, let's look at the deep structure of two new sentences, this time using action verbs and adjectives. The sentences are below;

1. John cries.
2. John is honest.



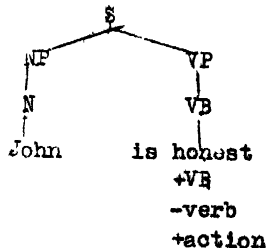


In the first sentence, "cries" is a VB which is an action verb. In the second sentence, "honest" is a VB which is an action adjective. Remember that the feature -verb means that the word is an adjective.

There seems to be something missing from the second tree diagram, doesn't there ? Of course, "Is" is not there. So, we must somehow explain how the second deep structure becomes the surface structure of the sentence "John is honest."

It's really not as difficult as you might think. There is a "be" transformation which introduces the correct form of "be" into the deep structure whenever the VB is an adjective.

Here is the surface structure tree diagram of "John is honest".



Whenever a VB carries the feature -verb (which indicates that the VB is an adjective), then the correct form of "be" is inserted in front of VB, immediately dominated by VP.

EXERCISES

1. Apply whatever is needed to the strings below :

   (1) the relative clause transformation
   (2) the relative deletion transformation
   (3) the adjective transformation
   (4) the passive transformation
   (5) the verb insertion transformation

   Show each step of your application.

   a. the boy the boy was reckless has challenged Captain Hook
   b. the man Peter Pan challenged the man brandished a cutlass

2. Draw deep structure diagrams for

   a. Andromeda said that she likes Perseus.
   b. It annoys Harrison that Franklin employs a interpreter.
   c. Wendy was kidnapped by pirates.
   d. The crocodile is emotional.

3. What is wrong with the statement that verbs and adjectives are completely different kinds of constituents ? Explain fully.

4. Action verbs and adjectives can be used in certain kinds of sentences where non-action verbs and adjectives cannot. What kinds of sentences are they ?

5. Write the features of the following nouns and verbs. The first one is done for you.

   a. annoy — ANSWER : annoy
      +VB
      +V
      +action

   b. Paul Rev
   c. teacher
   d. tent
   e. know

Lesson 9

MORE ABOUT NOUN FEATURES

Earlier in your reading, you discovered that it is not enough just to be able to say that a word like box is a noun, if we are trying to understand how our language operates. Saying a word is a noun does not explain why strings like the following ones are not grammatical sentences of English.

*the wall licked its lips
*the sight amazed the truth
*he painted the feeling blue
*the thought enjoyed the music
*happiness kicked the idea hard
*the mind got married

You learned to describe nouns as having such features as +common or -common, +concrete or -concrete, +animate or -animate, and +human or -human. Thus, the name of the planet "Saturn" would be listed in your lexicon as

Saturn
+N
-common
+concrete
-animate
-human

The nouns "truck" and "Mabel" would be shown as

truck	Mabel
+N	+N
+common	-common
+concrete	+concrete
-animate	+animate
-human	+human

The noun "Mabel," which has the feature -common, could not be a common noun marked +common. It is always a proper noun (-common). On the other hand, the noun "truck," marked +common, is not used as a proper noun (-common).

But it is not always true that a word has to be either + or - for a particular feature.

Nouns, for example, have some features which can be + or - for the same word. Most English nouns can be either singular (+singular) or plural (-singular). In the sentence

The cow wants to climb the fence.

the noun "cow" is a singular noun (+singular). But in the sentence

The cows want to climb the fence.

the noun "cows" is a plural noun (-singular). The form of the noun depends on whether it is + or - the feature "singular." If it is -singular then the ending s is usually added by a transformation we shall study later. Occasionally, when a noun is plural (-singular) the vowel is changed and an s is not added.

goose = geese
foot = feet

Most English nouns like "book" or "boy" can be either +singular or -singular . "Mud," which can only be singular, is shown with the feature +singular [illegible] don't talk about

The boy is splash[illegible] mud in the muds.

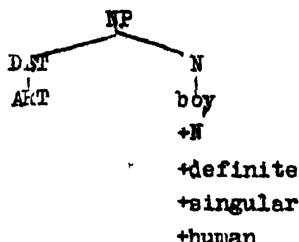
Scissors, which [illegible] plural, is shown with the feature -singular

Nouns can also [illegible]nite (+definite) or indefinite (-definite). W[illegible] usually tell whether a noun is +singular or -singular by [illegible] it ends with s. But in order to tell whether the common noun "table" is +definite or -definite we have to look at the article. The is the definite article for both singular and plural nouns. [illegible] the noun is singular (+singular), then the indefinite article is "a" or "an". If the noun is plural (-singular) then the article is deleted. For example, in the NP "the table" we can [illegible] that "table" is +definite because it has the definite article "the". In the singular NP "a table", the

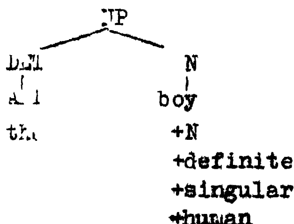
indefinite article is used.

If you look at the tree diagrams used so far in the book, you will notice that deep structure diagrams contain articles like "the," "a," and "an". Actually, these articles should not be in the deep structure at all. The constituent ART should be present, but that is all. The reason for this is that we cannot know what word the article will be until we know what kind of noun the noun phrase contains. IF the noun is marked -definite , then the determiner will be "a" or "some". If the noun is -definite , +singular , then the determiner will be either "a" or "an". If the noun is -definite and -singular , then the determiner constituent is deleted.

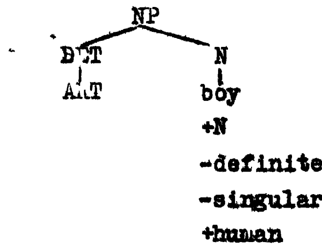
Perhaps you're wondering how articles get into the deep structure. Look at this deep structure for a noun phrase. The Noun includes only the features of interest to us as the moment.



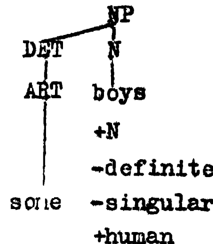
The deep structure contains the constituent ART, but it does not show a particular word connected by ART. Since the noun is definite (+definite) there is a transformation called the article transformation which inserts "the" into the deep structure to generate



The article transformation depends upon features of the noun, for example, <u>definiteness</u> (+definite or -definite), and <u>number</u> (+singular or -singular), So, if the features of the noun are -definite and +singular [illegible] the transformation introduces either "a" or "an" under ART. [illegible] features are -definite and -singular , the [illegible] determiner constituent is deleted. When a noun is -singular , the <u>plural ending transformation</u> usually adds the ending s to the noun. So, if we apply the article transformation and the plural ending transformation to



we generate



or simply the noun "boys."

Here is a chart showing the articles introduced by the article transformation.

Noun		Article	Noun		Articles
+N +definite +singular	=	the	+N -definite +singular	=	a an some
+N +definite -singular	=	the	+N -definite -singular	=	(nothing)

EXERCISES

1. Draw the deep structure tree diagrams of
   a. The rules which strengthen the grammar are transformational rules.
   b. The rules were developed by a young linguist.
   c. What surprised the telephonist was the noise.
   d. It amuses Shaw that the English are romantic.

2. What are verbals and what are the two main kinds of verbals ?

3. What are the features of the words underlined ?
   a. the battleships
   b. sing
   c. believe
   d. a roof
   e. the Pentagon
   f. General Cluster.

4. If a noun is +definite and +singular , what article can occur before it?

5. How do articles get into the deep structure ?

6. What is a PRE-ART ?

7. What constituent immediately dominates
   a. the deep subject of a sentence ?
   b. The deep object of a verb phrase ?

8. What are
   a. noun phrase complements ?
   b. verb phrase complements ?

9. State the three complementizers you have studied and write a sentence containing each one.

* * *

Lesson 10.

PRONOUNS

Nouns can be either words like "hat," "chicken," and "scientist," which are not pronouns (we show them in the lexicon with the feature -pronoun), or words like "I," "you," "he," "she," "it," "we," and "they," which have the feature +pronoun.

Although pronouns, like other nouns, may be singular (+singular), or plural (-singular), they also have other features that most nouns do not possess. We should be able to explain why, for example, we can say,

I hurt myself.

but not

*I hurt yourself

or

*I hurt himself

Why, for a second example, can we say

You hurt yourself.

but not

*you hurt myself

or

*you hurt himself ?

We should be able to explain why we can say

He hurt himself.

or

She hurt herself.

It hurt itself

but not

*he (she, or it) hurt yourself (myself)

Pronouns have a feature which is usually called person. The pronoun "I" in English, like the pronoun "je" in French, "ich" in German, and "io" in Italian, is a first person pronoun. We show this by adding the feature "plus first person" (+I), to the lexicon entry for the word "I". "You," the second person pronoun, is shown with the feature "plus second person" (+II The third person pronouns, "he," "she", and "it," are shown with the feature "plus third person" (+III). Unlike the first or second person pronouns, "he" has the feature male (+male), and "she" has the feature female (+female). Of course, we need the feature "male" (+male), for some other nouns such as duke, otherwise we might not be able to explain why

*the duke took her own servant

is ungrammatical. Similarly we need the feature "female" (+female), for words like "tigress" to account for the ungrammaticalness of

*the tigress devour[illegible] h[illegible] own clubs

In langua[illegible]s such [illegible] French and Italian almost all nouns have either the features +male or +female . In French, if the noun is +female like "plume" (pen), we can insert only a feminine indefinite article like "une" before it, but if the n[illegible] has the feature +male like "nuage" (cloud), then we must insert only [illegible]sculine indefinite article like "un" before it.

Look at these exa[illegible] [illegible]ronouns with their "person" features and "number" features.

+singular +I : [illegible] Robert Frost is a great poet.
+singular +II : [illegible] that Robert Frost is a great poet.
+singular +III : [illegible] : He believes that Robert Frost is a great poet.
+singular +III +[illegible] : She believes that Robert Frost is a great poet.
+singular +III -[illegible] : It dropped on my toe.

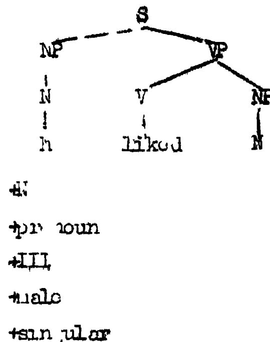
The plural pronouns ar[illegible] [illegible]ilar.

-singular +I : [illegible] believe that . . .
-singular +II : You believe that . . .
-singular +III : They believe that . . .

We would show these features of "he" and "we" in this way

he	we
+N	+N
+pronoun	+pronoun
+III	+I
+singular	-singular
+male	

Pronouns are placed in sentences in two ways. The first way is to insert them in the deep structure [illegible] the same way as other nouns are. For example, we might find a deep structure such as the one following. (The features of the noun "butter" are [illegible]).



The sentence based upon this deep structure is

He liked butter.

The second way pronoun can come into sentences is through a transformation. The way in which this happens is very interesting. Look at this string.

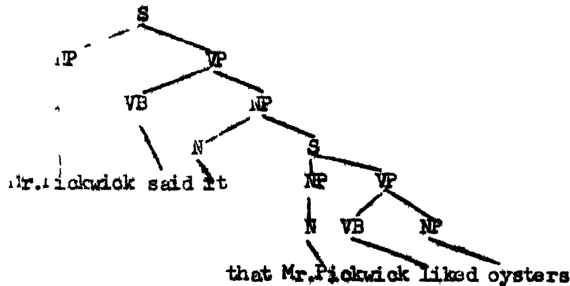
1. *Mr. Pickwick said that Mr. Pickwick liked oysters

If you were asked to transform this string into a surface structure, you would probably produce this,

2. Mr. Pickwick said that he liked oysters.

What exactly would you have done ? Notice that in sentence 1, "Mr. Pickwick liked oysters" is a noun phrase complement with the complementizer "that".

The noun phrase "Mr. Pickwick" in the embedded sentence is identical to a noun phrase "Mr. Pickwick" in the main sentence.



Whenever a noun phrase in an embedded sentence is identical to a noun phrase in a main sentence, one of two things happens. You have already learned one of these possibilities. The noun phrase in the complement is deleted by the identical "NP" deletion transformation. Here is an example to refresh your memory.

*Madeleine preferred for Madeleine to come home early

Identical NP Deletion: Madeleine preferred to come home early.

There is a second [illegible] can happen to a noun phrase in an embedded sentence when it i[illegible] noun phrase in the main sentence. It can be made into a pronour[illegible] grammatical term, it can be pronominalized. Pronominalizatio[illegible] string

*Mr. Pickwi[illegible] Pickwick liked oysters

becomes

Mr. Pickwi[illegible] liked oysters.

The pronominalization transformation does only one thing. It changes the feature -pronoun in[illegible] +pronoun. For instance, the noun "Mr. Pickwick" in the embedded sentence "that Mr. Pickwick liked oysters" starts out in the deep structure like this:

Mr. Pickwick

+N

-pronoun

+III

+male

+singular

The pronominalization transformation changes this by changing -pronoun to +pronoun

Mr.Pickwick

+N

+pronoun

+III

+male

+singular

Look in the lexicon and find the pronoun which is third person, male, singular. This pronoun is the pronoun "he". So, we substitute "he" for "Mr.Pickwick." This gives us the new sentence

Mr. Pickwick said that he liked oysters.

Notice that "he" in this sentence is ambiguous. "He" could refer either to Mr. Pickwick or to some other person, for instance, Mr.Pickwick's friend, Mr. Winkle. It is easy to say why this sentence is ambiguous. The "he" could have been introduced by the pronominalization transformation in which case the "he" would refer to Mr. Pickwick, and the "he" could also be in the deep structure, in which case it would refer to someone other than Mr. Pickwick.

So you have seen that there are two ways that pronouns get into sentences. Pronouns can appear in the deep structure, or if there are identical noun phrases in a deep structure, pronouns can often replace one through a transformation. Since pronouns get into sentences in two different ways, we can sometimes understand pronouns in two different ways. In other words, the pronoun is sometimes ambiguous.

EXERCISES

1. Apply the passive . cleft transformations to
   a. The freckled fruitseller sold yellow gooseberries.
   b. That strange or ...un. has played two Beethoven symphonies.

2. What are the features of the words underlined ?
   a. Charles Adams ... l my grandmother.
   b. The choirboys s... a popular song.
   c. We like her very ...
   d. She puts the do... kennel.

3. Draw deep structure tree diagrams for
   a. The girl who sang that carol was trained by Jenny Lind.
   b. That Jacob loved Rebecca was obvious.

What is the gerundive complementizer ?

How do pronouns differ from other nouns ?
(Review this lesson for details.)

6. Explain briefly the IT deletion transformation.

7. Why do we need the features +male or +female to describe some nouns and pronouns ?

8. Draw a detailed deep structure diagram and include the features for we made a bookshelf.

9. Describe briefly the ... ways a pronoun can come into a sentence.
   What sometimes happ... because pronouns may come into sentences in two ways?

10. How many sentences ... in English ?

11. When is the deep subject ... sentence different from the surface subject ?
    Give one example.

12. When can noun phr... ?

13. Explain the term "... ...".

***

Lesson 11.

NOMINATIVES AND ACCUSATIVES

If you could transport yourself back one hundred years to a school where English grammar was being taught, you might hear the school-mistress drilling the children in the nominative and accusative forms of English pronouns. Although we deal with grammar in a very different way today, it is still useful to describe the English pronoun "I" as nominative and the pronoun "me" as accusative. In our grammar we talk of accusative pronouns as having the feature "plus accusative," abbreviated +acc , and nominative pronouns as having the feature "minus accusative," abbreviated -acc.

Here is how nominative (-acc) and accusative (+acc) pronouns are described in the lexicon part of our grammar. The nominative is on the left, the accusative on the right.

I	me
+N	+N
+pronoun	+pronoun
+I	+I
+singular	+singular
-acc	+acc
+human	+human
you	you
+N	+N
+pronoun	+pronoun
+singular	+singular
+II	+II
-acc	+acc
+human	+human

The third person singular pronouns need to have one more feature indicated. "He" and "she" normally refer to animate creatures. In the following sentence

When the automobile crashed he fell into a ditch.

you know that "he" does not refer to the automobile. The noun phrase "the automobile" must be pronominalized as "it" because it is inanimate. If you substituted "it" for "he," the sentence would be quite different.

When the automobile crashed it fell into a ditch.

The pronominalization rule is sometimes broken when we refer, for example, to a ship as she. However, we are dealing with normal uses, so you should mark "he" and "she" as +human and "it" as -human.

he	him
+N	+N
+pronoun	+pronoun
+III	+III
+singular	+singular
-acc	+acc
+male	+male
+human	+human
she	her
+N	+N
+pronoun	+Pronoun
+III	+III
+singular	+singular
-acc	+acc
+female	+female
+human	+human
it	it
+N	+N
+pronoun	+pronoun
+III	+III
+singular	+singular
-acc	+acc
-human	-human

Now we do the same for plural pronouns, noting that there are only two forms of the third person pronoun in the plural rather than six forms.

we	us
+N	+N
+pronoun	+pronoun
+I	+I
-singular	-singular
-acc	+acc
+human	+human

you
+N
+pronoun
+II
-singular
-acc
+human

you
+N
+pronoun
+II
-singular
+acc
+human

they
+N
+pronoun
+III
-singular
-acc

them
+N
+pronoun
+III
-singular
+acc

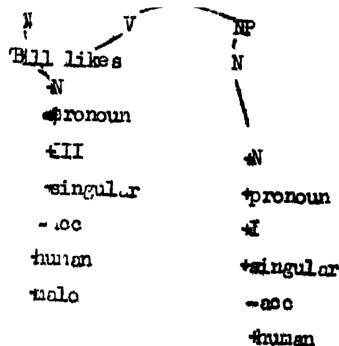
Nouns and pronouns which [illegible] in the deep structure are always nominative. They always carry the feature -acc. For example, the deep structure for the sentence

Bill likes me.

is actually

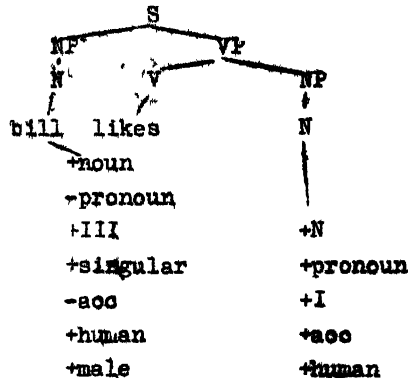
But likes I.

Here is the deep structure fo



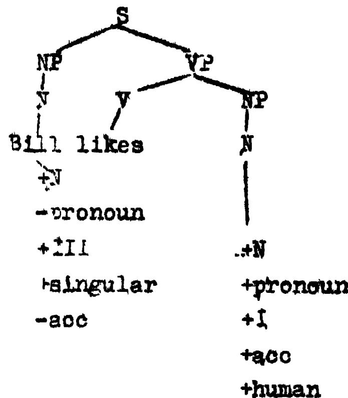
A very important transformation in English is called the accusative transfo nation, which almost always changes the feature -acc to +acc on any noun

which is not a surface noun. So, this transformation transforms the tree on page 57 into the tree below.



If we look in the lexicon, we discover that the first person singular accusative pronoun is "me". So, we substitute "me" for "I" to generate the surface structure of the sentence

Bill likes me.



Nouns also start off with the feature -acc . The accusative transformation changes the feature to +acc . Why is this necessary if nouns only change their form with the -singular feature ? You should remember that the pronoun "he" may be inserted by the pronominalization transformation into the position occupied by a noun in the deep structure. If the deep structure is

*Mr. Pickwick wants Jingle to talk about Mr.Pickwick
we should know why we don't use "he":

*Mr.Pickwick wants Jingle to talk about he.

The second "Mr.Pickwick," which was originally -acc, has become +acc through the accusative transformation. The pronoun which has the feature : "third person" (+III), "singular" (+singular), "male" (+male), "animate" (+animate), and also +acc, is "him". Consequently the sentence generated by the pronominalization transformation and the accusative transformation is

Mr.Pickwick wants Jingle to talk about him.

The rules of a grammar must be able to explain this.

EXERCISES

1. Draw deep structure tree diagrams for
   a. The cat which licked the dish kicked the bucket.
   b. The female reporter was surprised by the news that she heard.
   c. It is unusual for rabbits to speak.
   d. The white rabbit refused to eat the lettuce.

2. Why do all nouns, not only pronouns, need to be shown with the feature +acc when they are not subjects ?

3. What is the pronominalization transformation ?

4. In what two ways may pronouns get into sentences ?

5. How does the cleft transformation work and when can it not be applied ?

6. Several different noun phrase deletion transformations remove noun phrases from deep structure in order to generate a surface structure. Explain why this is evidence that it is the deep structure that provides us with MEANING.

Lesson #12.

UNIVERSAL PROPERTIES OF LANGUAGES

In the first lesson we said that, when we study the grammar of a language, what we are really doing is answering the question "How?" How are we able to accomplish the feat of speakingand understanding sentences we have never heard before ? We have seen that grammar deals with the structure of sentences, that is, the way the constituents of sentences are arranged. But in the second lesson we learned that every sentence has not just one structure, but two structures. The structure we use when we speak to others is called, surface structure. This surface structure depends on the other structure, the deep structure, for its meaning. Transformational rules like the ones discussed in this book change the deep structures of sentences into surface structure; they change the shape of the deep structure tree diagrams.

For example, one thing the passive transformation rule does is to shift the first noun phrase on the tree, the one immediately dominated by s,



to the end of the string. In other words, the first noun phrase is moved from the left side to the right side of the tree. Thus, the passive version of

Jack chased Ralph.

is

Ralph was chased by Jack.

We have said that it is the deep structure that gives us the meaning. Let's look at this more closely. Imagine that you were listening to a news broadcast or perhaps watching it on television. You hear the announcer say

1. Our weatherman fears that the hurricane will strike our area on Tuesday.

You may have different reactions to this. You might think

"Hurrah ! No school on Tuesday !"

or even

"Hope it doesn't hit the school while we're there."

or perhaps

"We're all going to sleep in the cellar with lots of candy and food

Suppose that instead of (1) you heard

2. It is feared by our weatherman that the hurricane will strike our area on Tuesday.

Although the order of the words is different from that in sentence 1 (that is, it has a different surface structure), you would probably react to it in the same way because you have been given the same information as in sentence 1. You would even have the same reaction from a rather clumsy sentence like

3. That the hurricane will strike our area on Tuesday is feared by our weatherman.

Suppose on the other hand, that you heard

4. Our weatherman is sure that the hurricane will miss our area on Tuesday.

Certainly your reaction would be different because the information you received was different.

The sentences 1,2 and 3 give you exactly the same information despite the fact that the constituents in the sentence were arranged differently. In other words, sentences 1,2 and 3 have the same meaning. You knew this and, probably without realizing it, you knew that sentences 1,2 and 3 had the same deep structure.

Remember that every deep structure has one meaning. But, by applying transformational rules, one deep structure may become any of several surface structure. All of the surface structures, of course, will have the same meaning because they all come from the same deep structure.

The fact that sentences have both a deep and a surface structure explains how we are able to understand as synonymous many apparently different sentences. This understanding, together with knowledge of the transformations discussed in these lessons, shows us how the surface form of a sentence (either its sound or its order on the printed page) is connected or related to its meaning.

Transformations, then, are very important. They are the processes which change deep structures into surface structures. Knowing the transformations possible in English means understanding all possible surface structure in English. knowledge of transformations helps us in two distinct ways : In the production of grammatical surface structures from deep structures, and in the identification of the correct deep structures from surface structures.

t r a n s f o r m a t i o n s

DEEP STRUCTURE (meaning)	SURFACE STRUCTURE (written or spoken expressively)

This brings up one very interesting and important problem about deep structure. We expect that different languages will have different surface structures and vocabulary. But we might well suspect that meanings (the level of deep structure) would be more similar. We might also suspect that there are certain properties common to all languages. One thing we know for sure : certain important kinds of experience are common to all human beings, simply because we are human beings and have the same kind of brain and other organs as all other human beings.

The properties that all languages have in common are usually called universals of language. Certain kinds of human experience that have been recorded in great literature rise above national and racial boundaries to give these works of literature universal importance. They are not just achievements of American, Russian, British, or Turkish literature; they are important achievements of the whole human race. Certain experiences are part of the universal experience of being human.

When applied to language, the term "universal" refers to properties common to all languages spoken by human beings all over the world. For example, when we ask if surface structures are universal we are really asking if the surface structures, the sentences, are the same for all languages.

Of course, they are not, But it does look as if deep structures are universal. Deep structures may well be the same for all human languages.

If this is so, it would help us in several important ways : (1) It would show us exactly how languages differ from each other; (2) it would answer many questions about the grammar of English by helping us to decide, for example, which of two deep structures was the correct one for a particular surface structure in English; (3) it would be evidence that every human brain is constructed in such a way that its owner learns his native language in the same way, no matter what that language may be. Each of these three claims needs further explanation.

The first claim is that we could determine exactly how languages differ from each other. If all languages have exactly the same set of deep structures, then we know, for example, that French, Hindi, Turkish, and Japanese differ first in the words which are introduced into the deep structures and, more importantly, in the particular set of transformations used to change deep structures into surface structures.

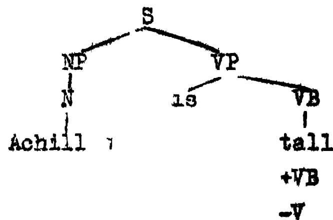
Besides using different words, the Japanese language has one set of transformations and the English language has a different set. This explains why English and Japanese speakers cannot understand each other, even though they may know the same deep structures. They use both different words and different transformations. A bilingual person (who has a perfect or almost perfect grasp of two languages) understands and can translate sentences in both languages because he knows the words and transformations of both languages.

The second claim is that if deep structures are, in fact, universal it would be easier to select the correct deep structure

for many surface structures in English. Suppose we wanted to know the deep structure of

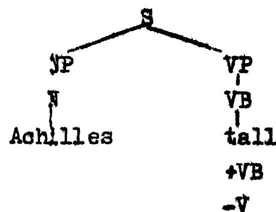
Achilles is tall.

One possible answer is the following deep structure :

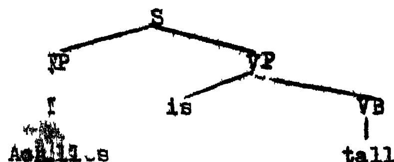


The word "is" appears in the deep structure right from the start.

A second possible solution is this :



According to this analysis, "is" does not appear in the deep structure until it is introduced later by the "BE" <u>introduction transformation</u> to generate the following surface structure :



Now, if the deep structures are universal, the same for all human languages : we could investigate whether a form like "is" is used in every language. In fact, it isn't. In some languages, "John is tall" is said in a form something like "John talls," where "talls" is a verb.

not an adjective. This means that the constituent "is" probably not a universal constituent of deep structure. If this is so, we should not regard "is" as a constituent of the deep structure in English. So the second deep structure above, the one without "is", is more likely to be the correct one. The difference between English and a language that does not use a constituent like "be" is that English, unlike many other languages, has a transformation that introduces "be".

The final claim concerns the human brain. This claim is the most complicated and important of all since it tries to explain how human beings learn their native language. It suggests that our minds are arranged so that, however intelligent or stupid we are, we all learn our native language whatever it is, by starting with the same deep structures, working out in some way (a way that is still unclear) what the particular set of transformations is for our language, and learning the vocabulary. The major part of this process is accomplished very rapidly in the first four years of life. Such a claim [illegible] requires far more research before it can be confirmed. It [illegible] the supposition that the deep structure of all languages [illegible] explained by the particular way certain human organs are developed and constructed.

You can see that we are just beginning to understand what a human language really is. We do know definitely that the sentences of all human languages have deep structures and surface structures. We know that language, in this sense, is common on this planet only to human beings. But many of the most important questions about language and what makes us human still remain to be answered. Perhaps one day you will help to answer them.

E X E R C I S E S

1. Apply the passive transformation to the following strings

   a. what Kim did horrified the spectators

   b. Silas adored [illegible]

   c. Beth grasped the hand of her weeping sister.

2. Draw deep structure tree diagrams for the following sentences. Show the following features where they apply :-

   + or -def

   + or -sing

   + or -N, VB,V

   a. The bear which pursued Caractacus climbed the oak.

   b. Will the ghost come ?

   c. It was unfortunate that Alice ate the marmalade.

   d. A small creature forced Crackers to bury the silver apples.

   e. The gloomy sculptor was acclaimed by the critics.

   In sentence b, the AUXILIARY WORD "will" should have its own branch immediately dominated by S.

3. Explain the accusative transformation.

4. What are complementizers ?

5. Explain what the indefinite noun phrase deletion transformation is.

6. When can we not use the complementizer deletion transformation ?